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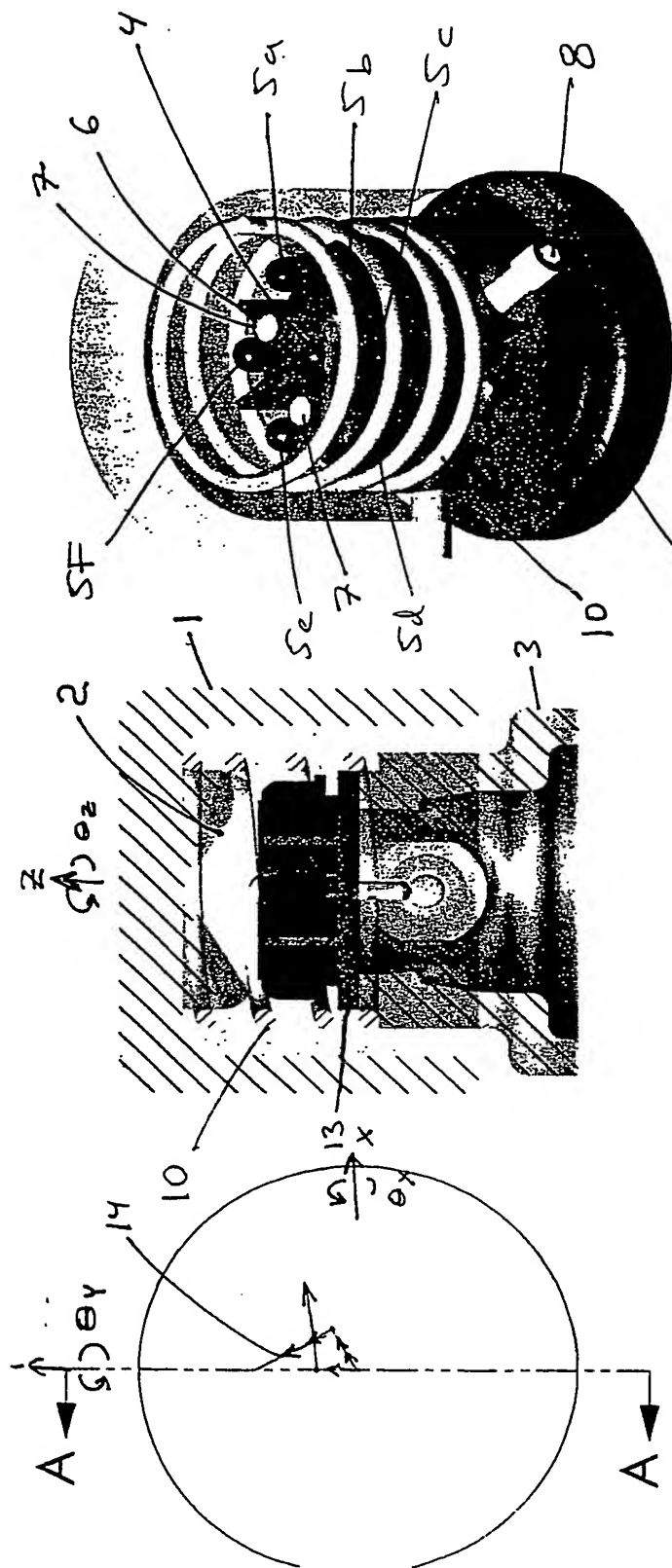


Fig 1a

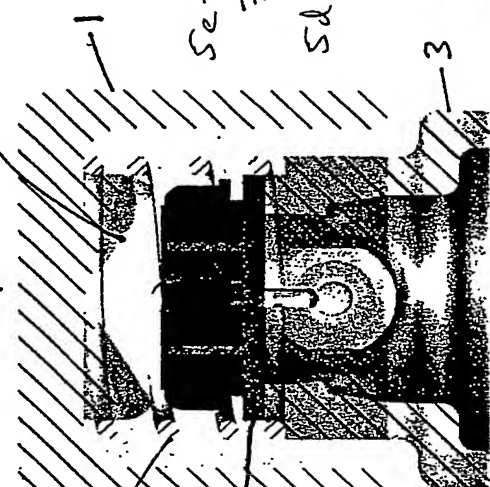


Fig 1b

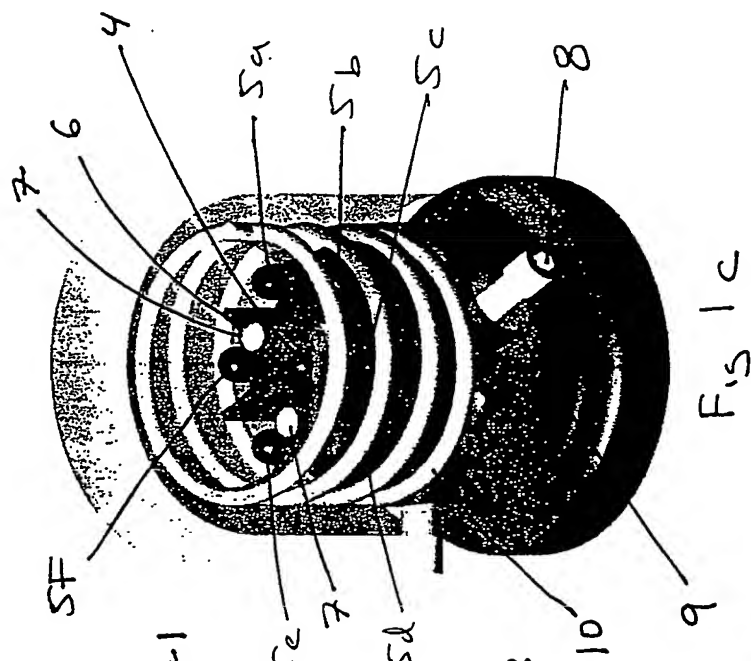


Fig 1c

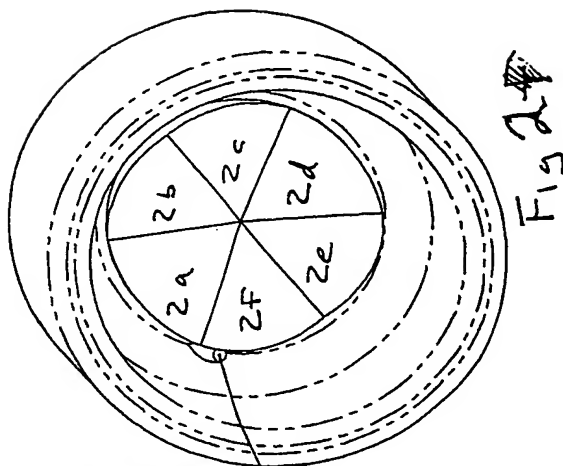


Fig 2a

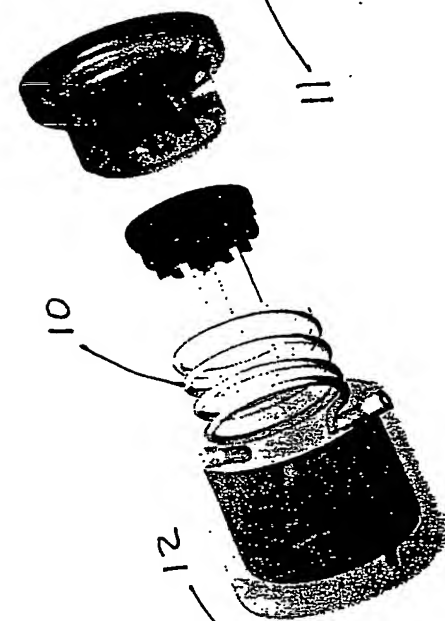


Fig 2b

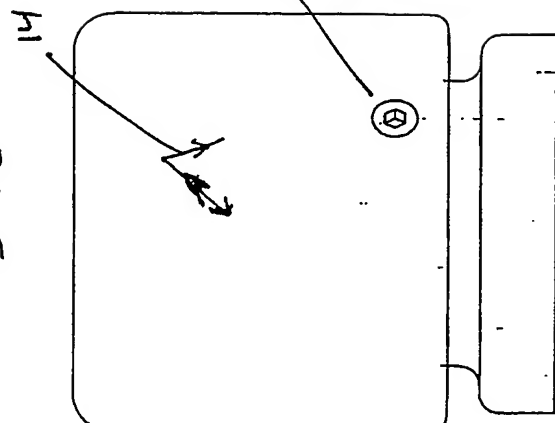


Fig 2c

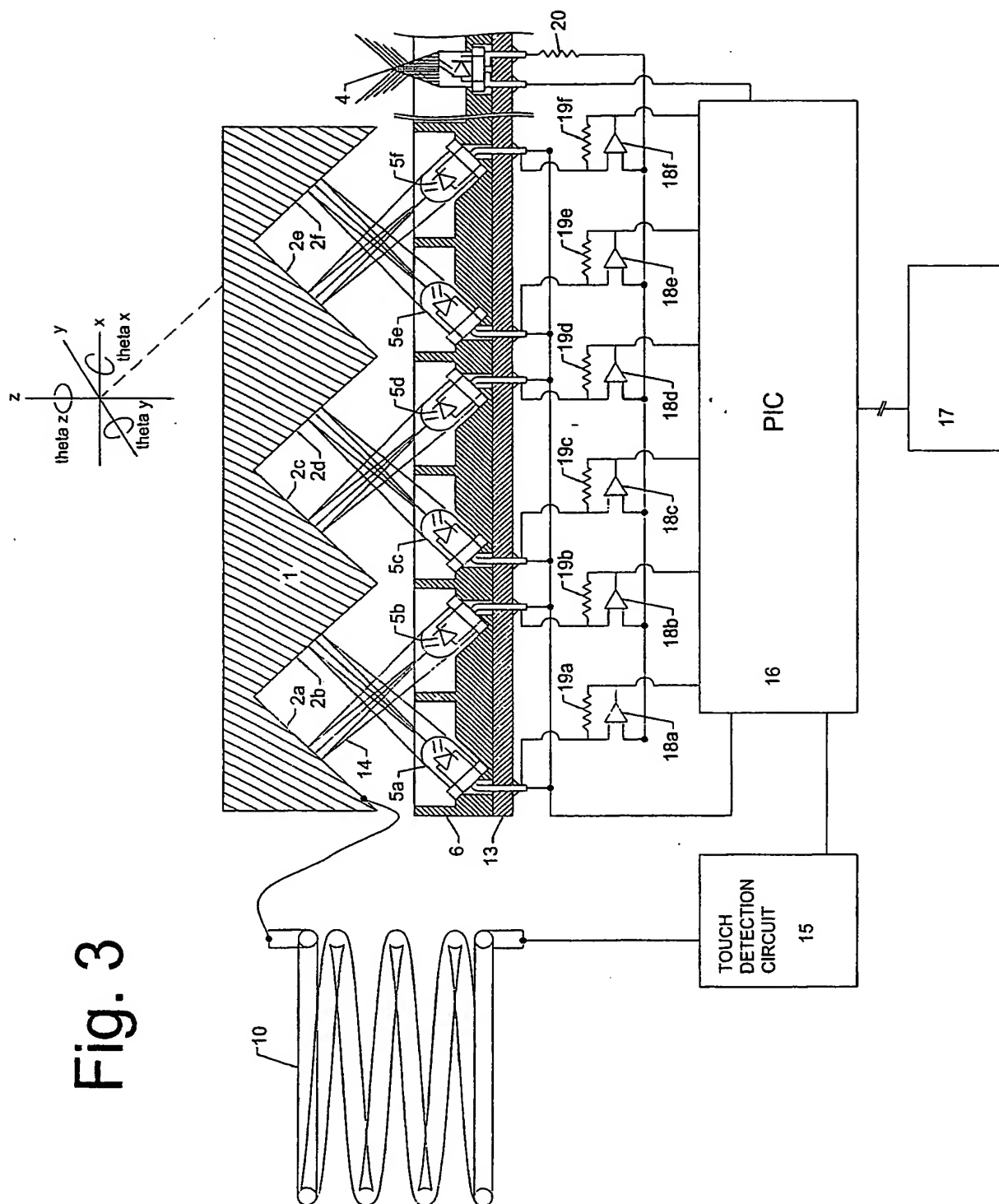
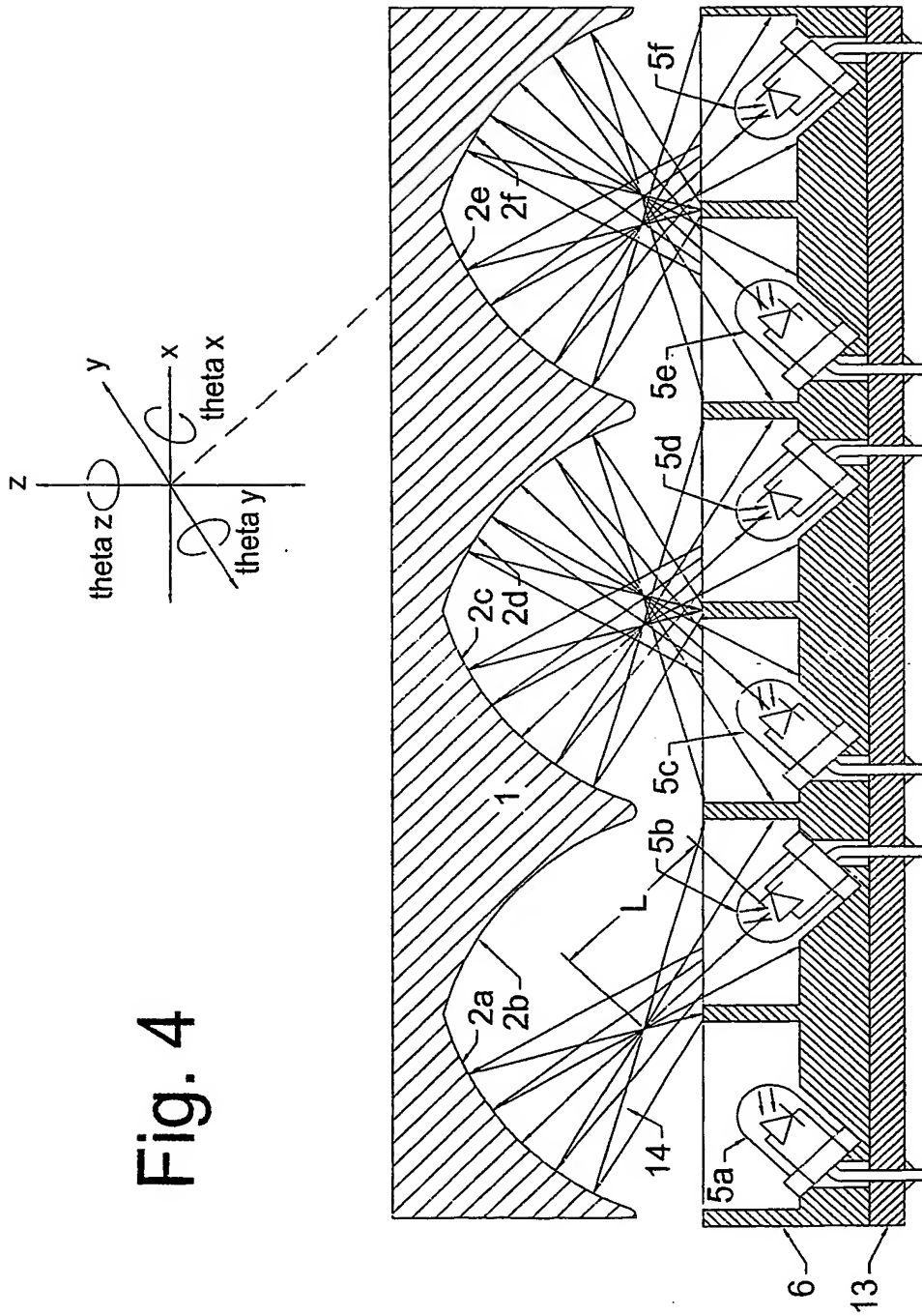
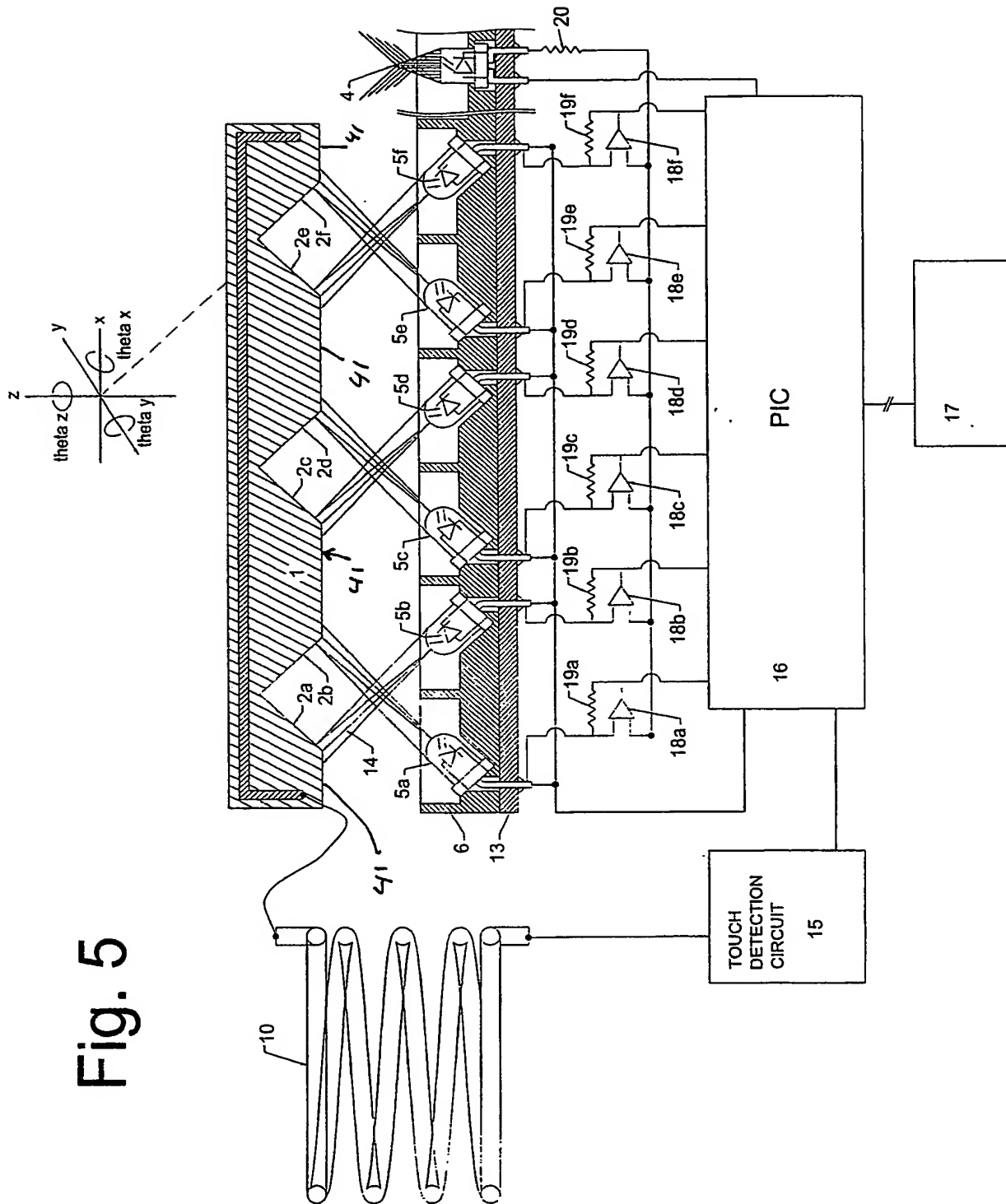
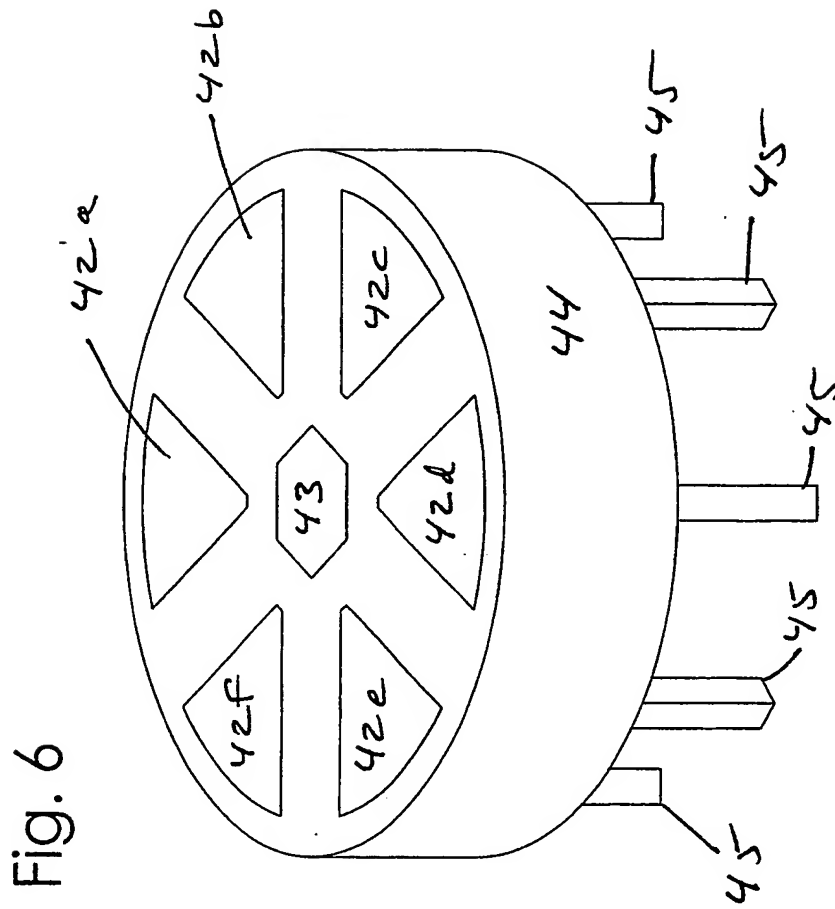
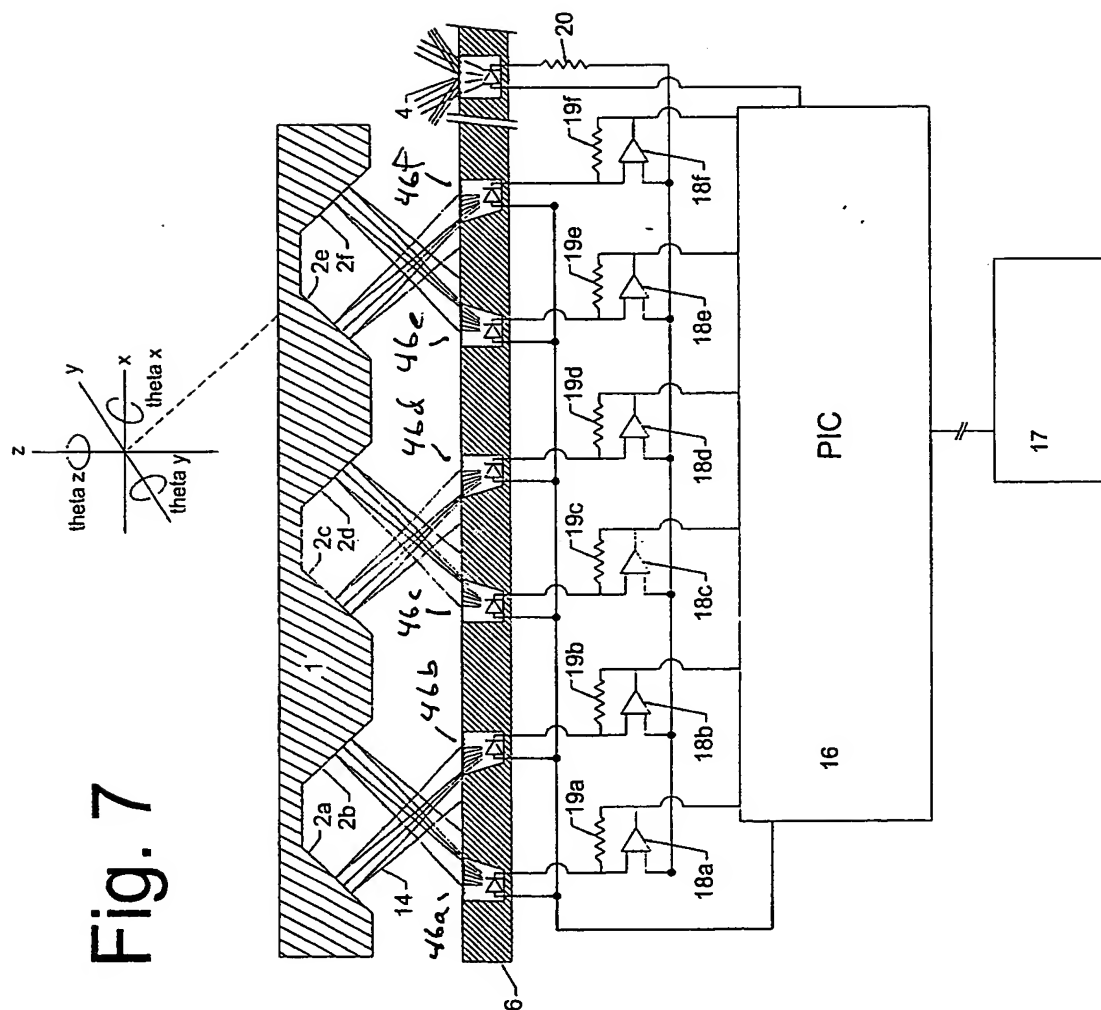


Fig. 4

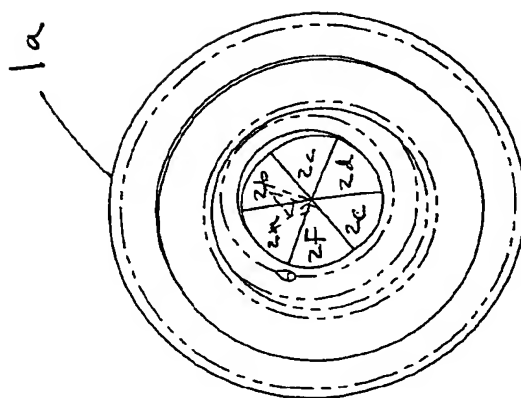
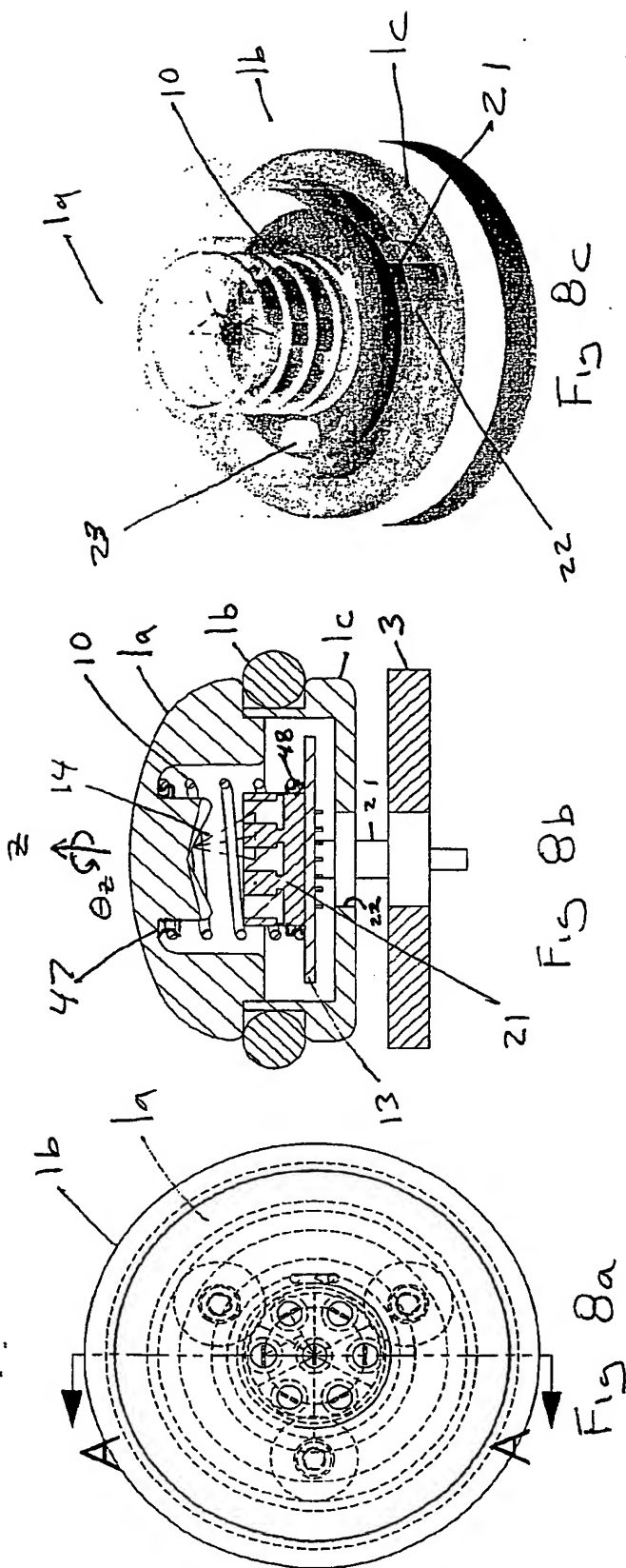




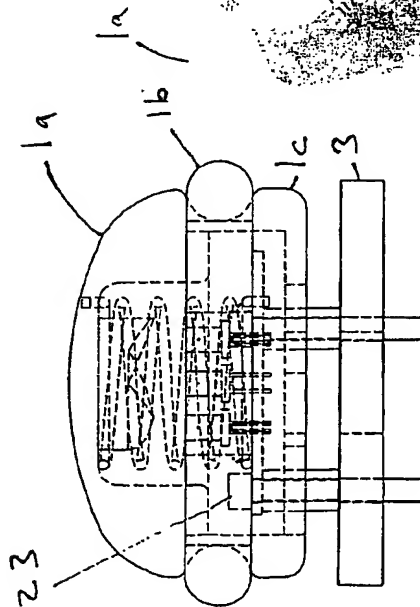
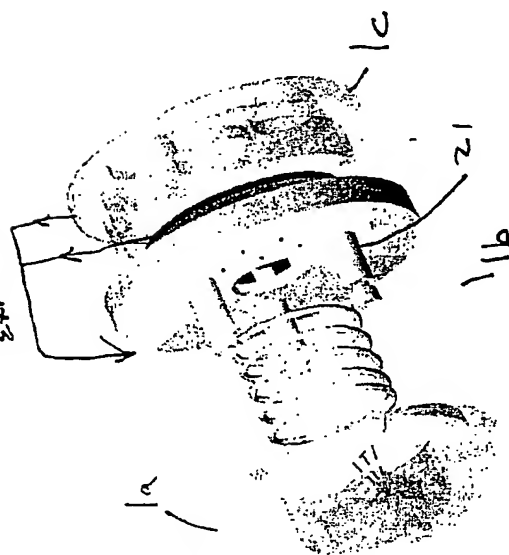




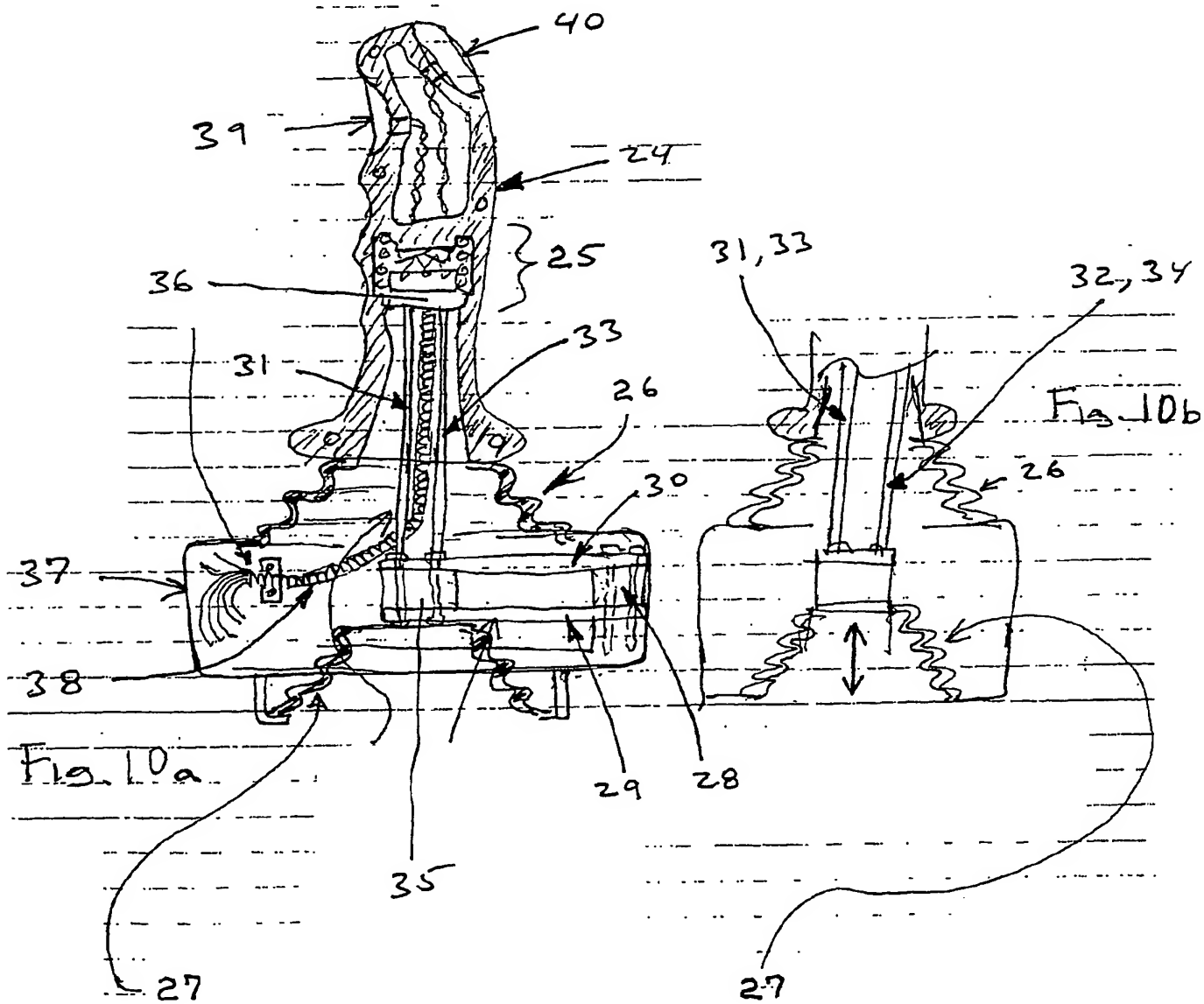
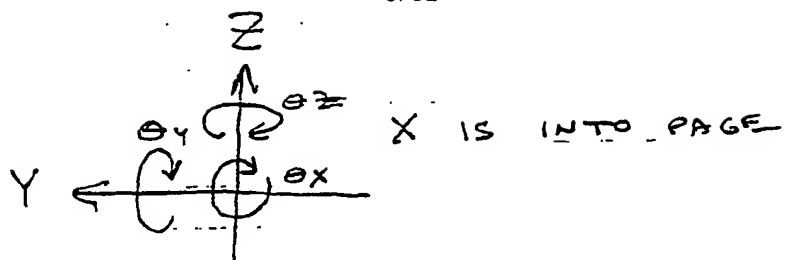
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SHOWN IN WIDE VIEW OF FIG 8b



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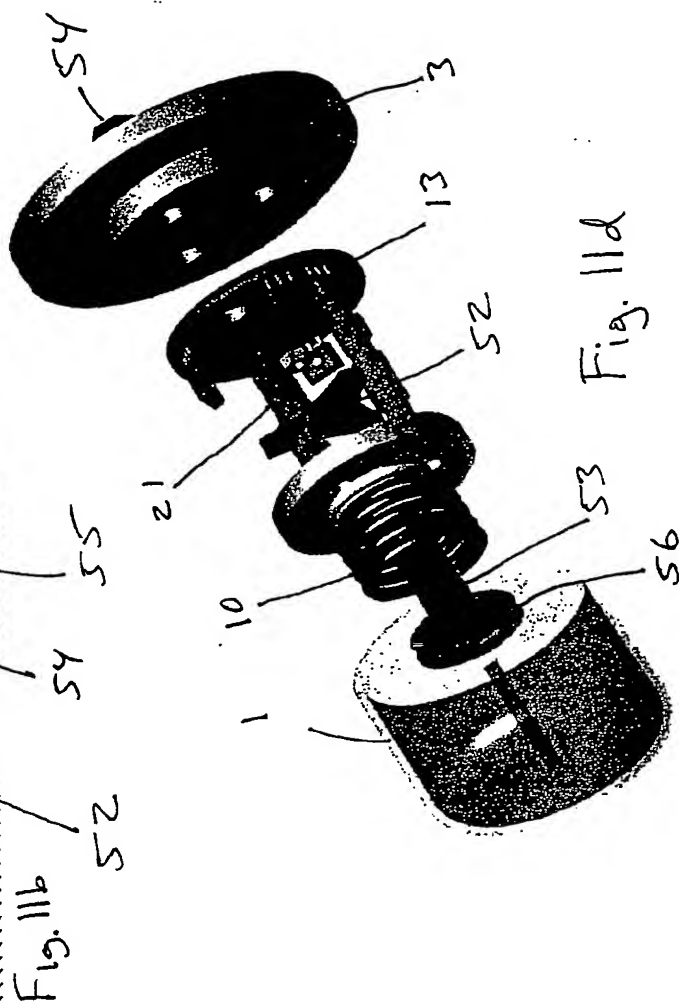
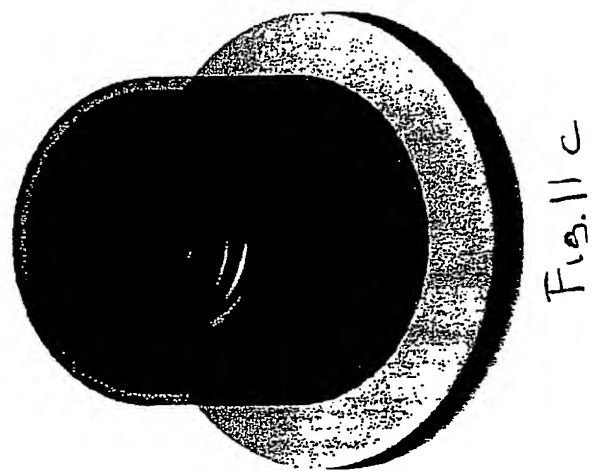
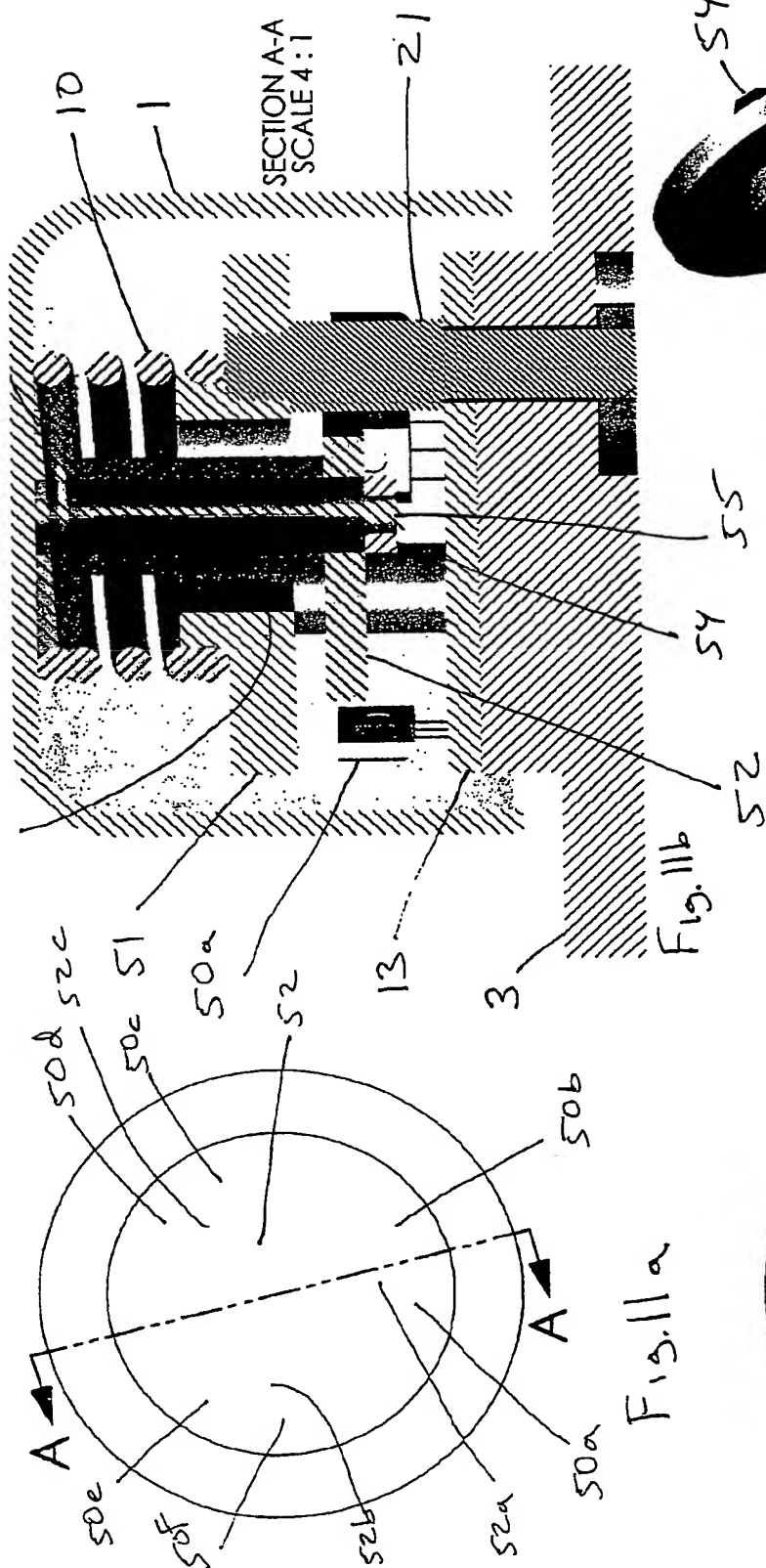




Fig 12

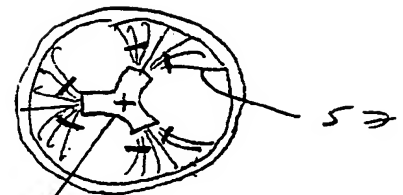


Fig 13

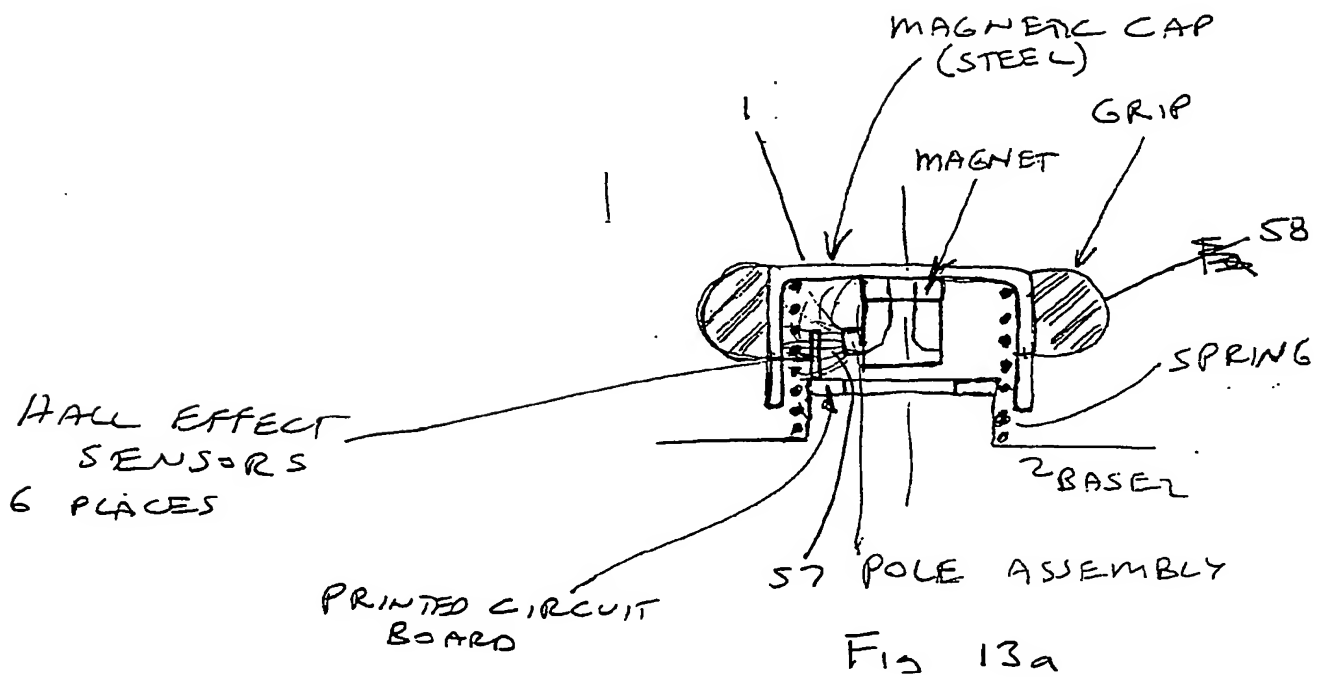
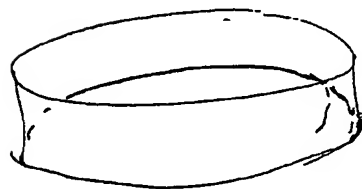


Fig 13a

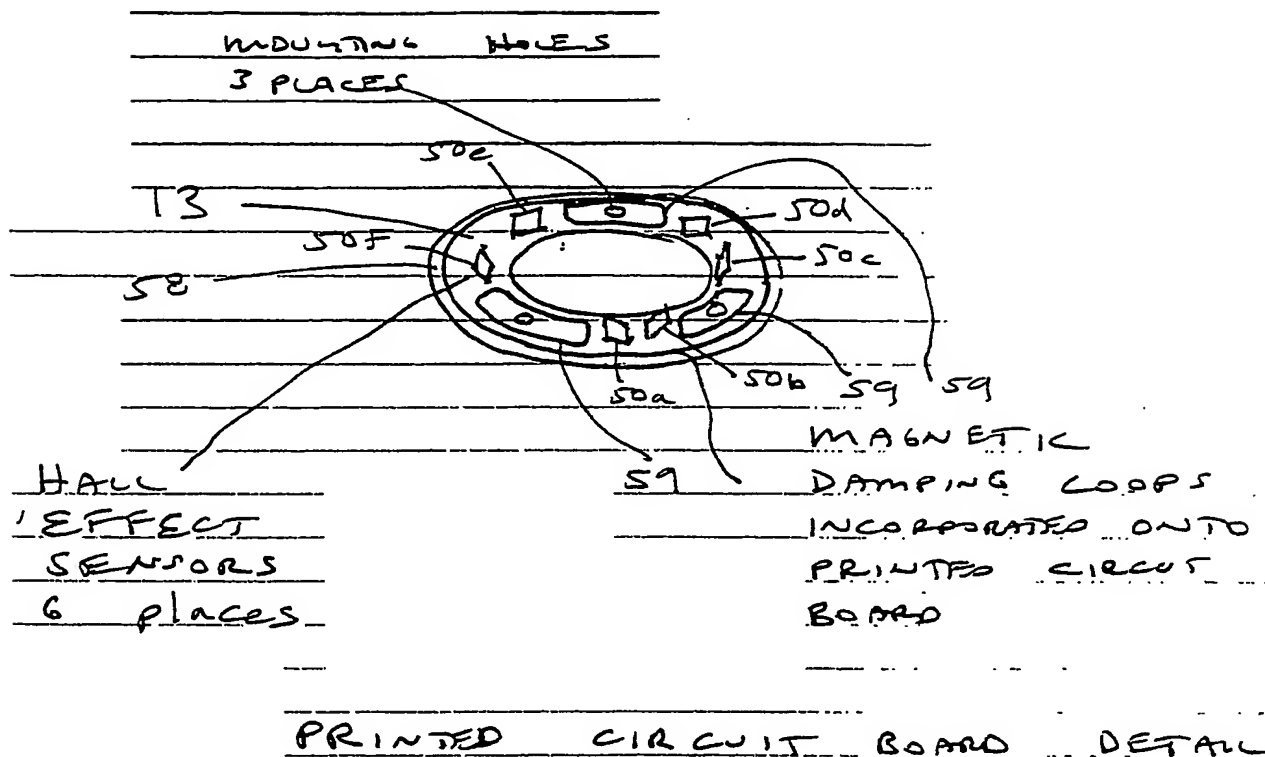


FIG. 14

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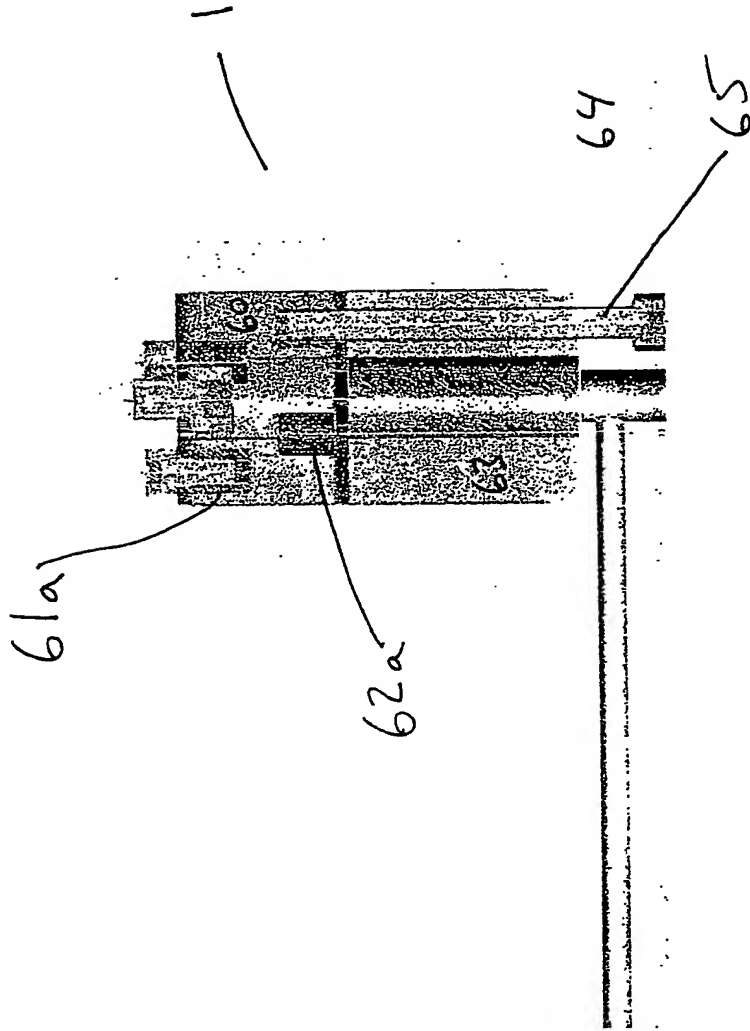


Fig 15a

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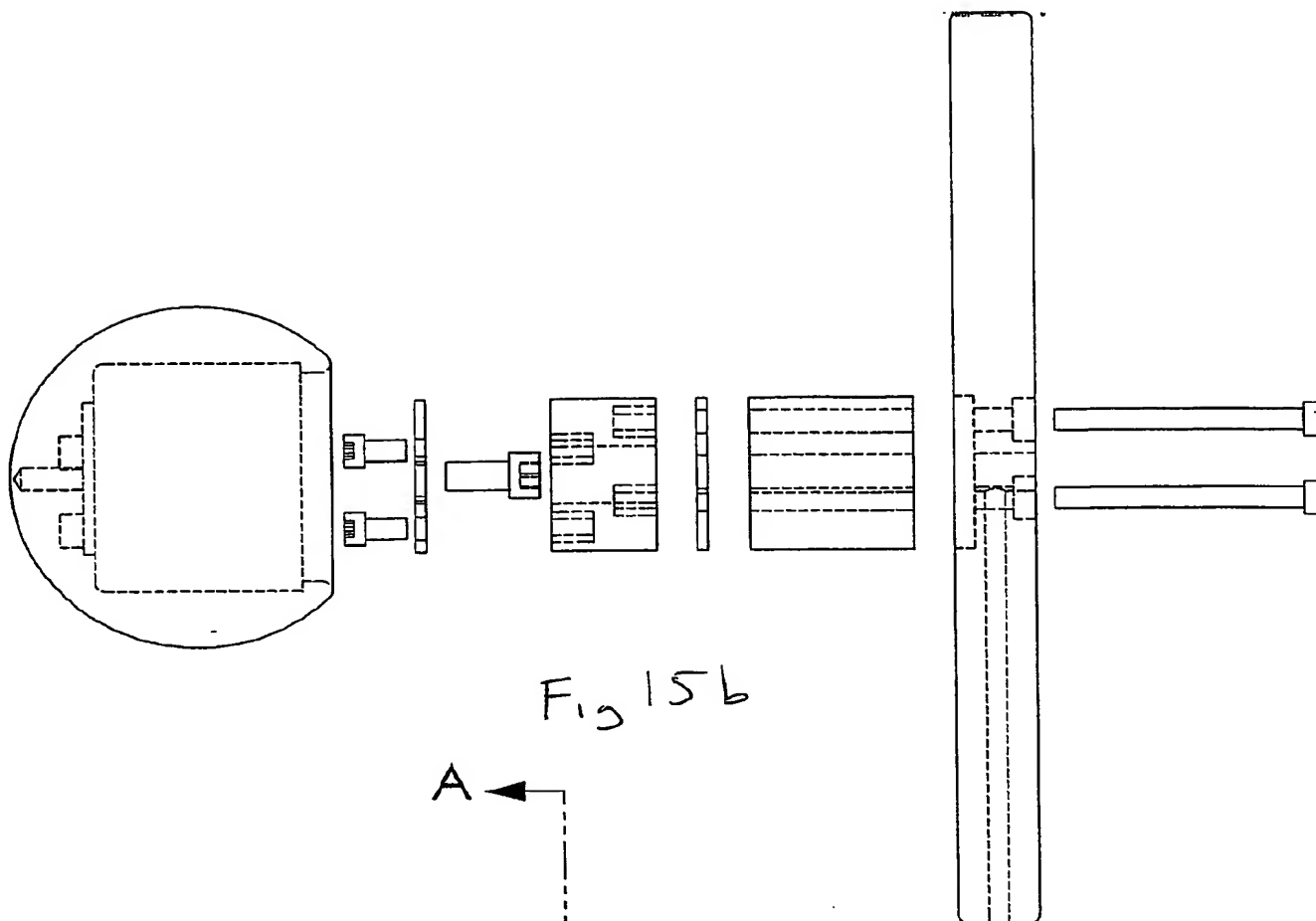


Fig. 15b

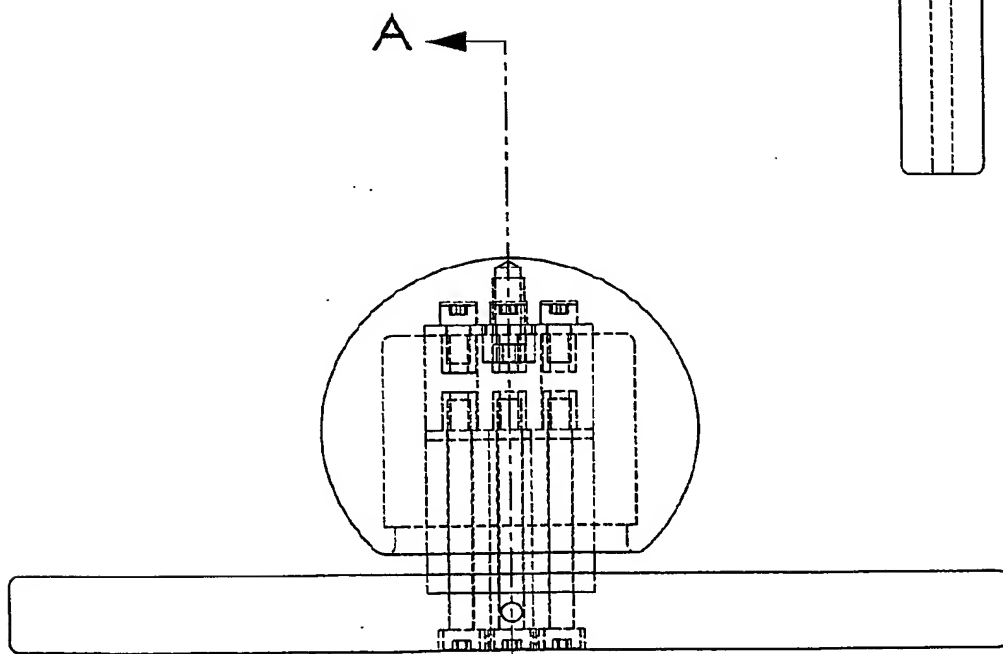
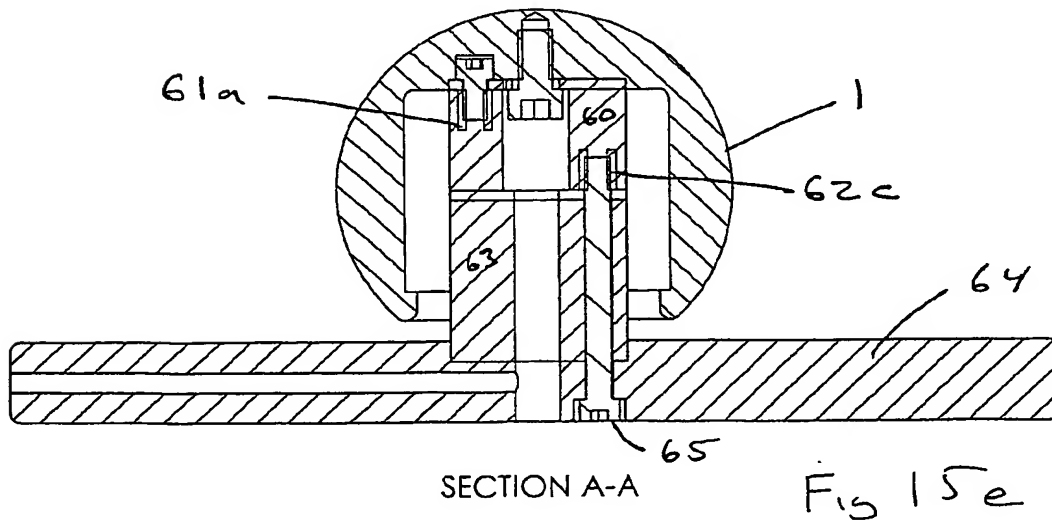
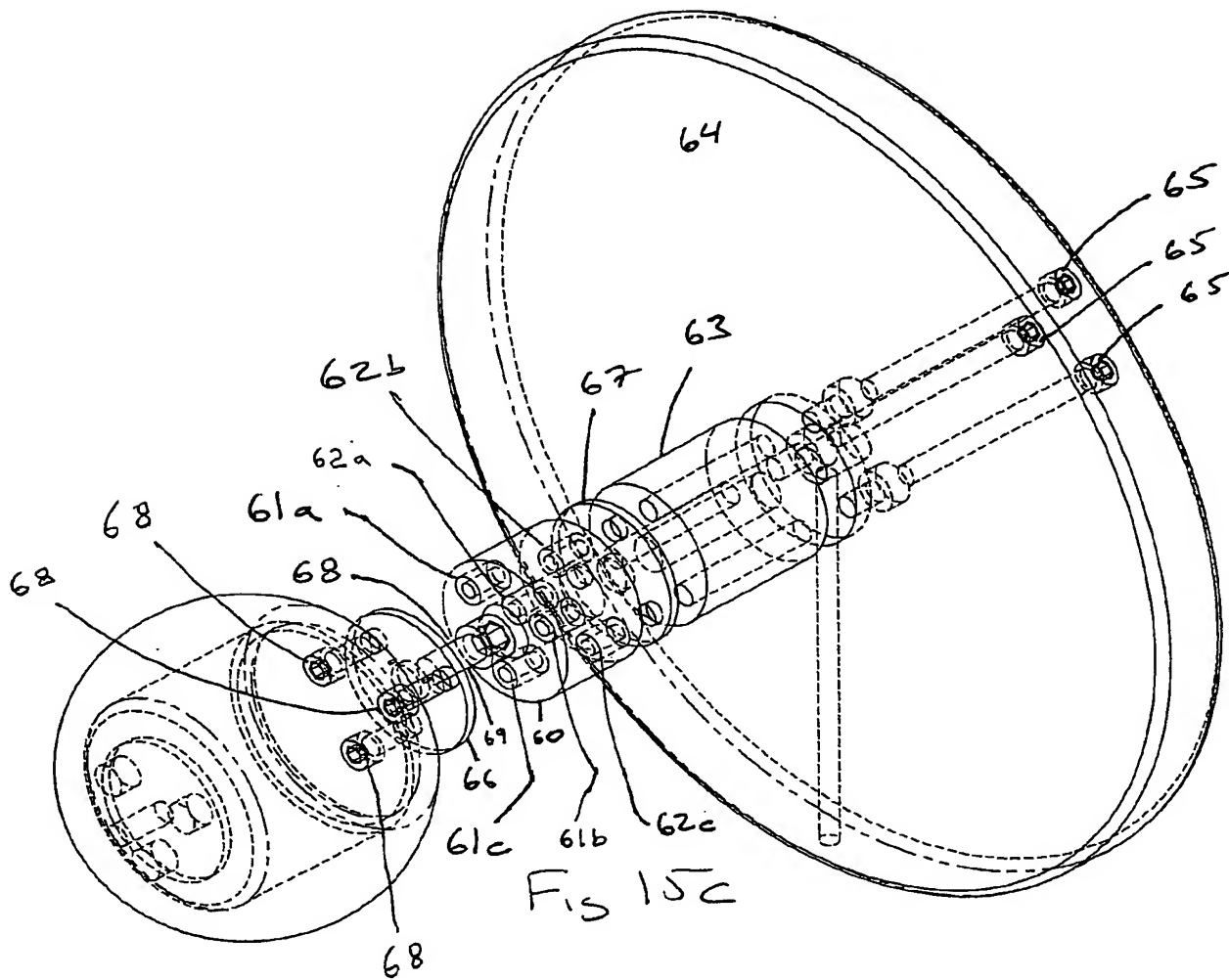


Fig. 15d

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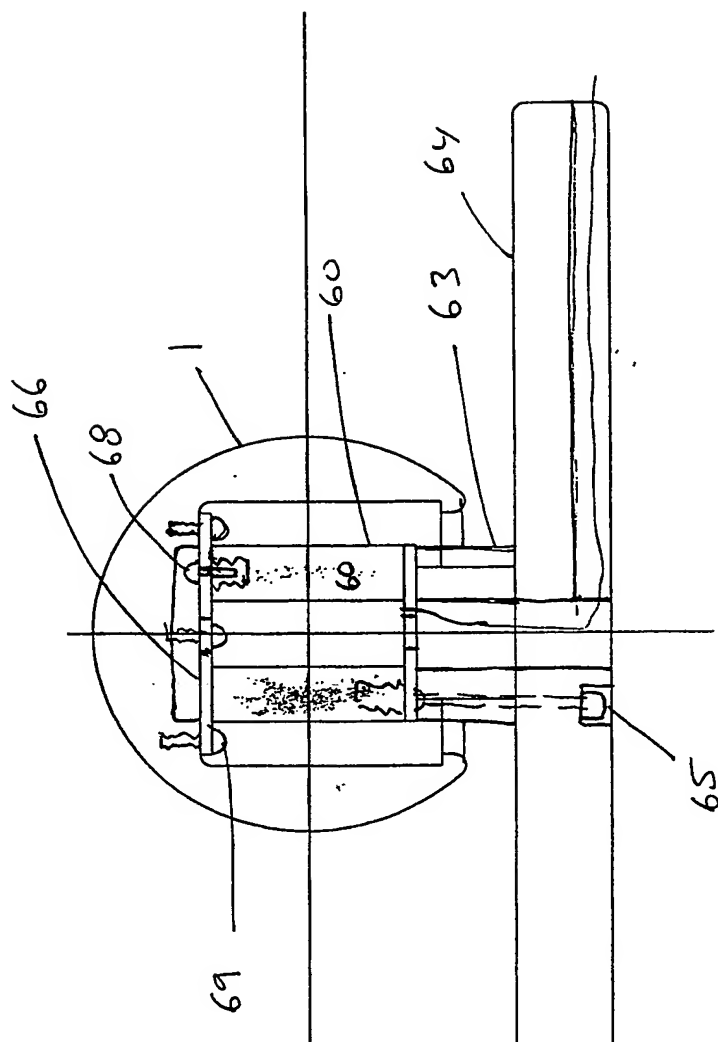


Fig 16

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CIRCUIT DIAGRAM
FOR RUBBER PLUG

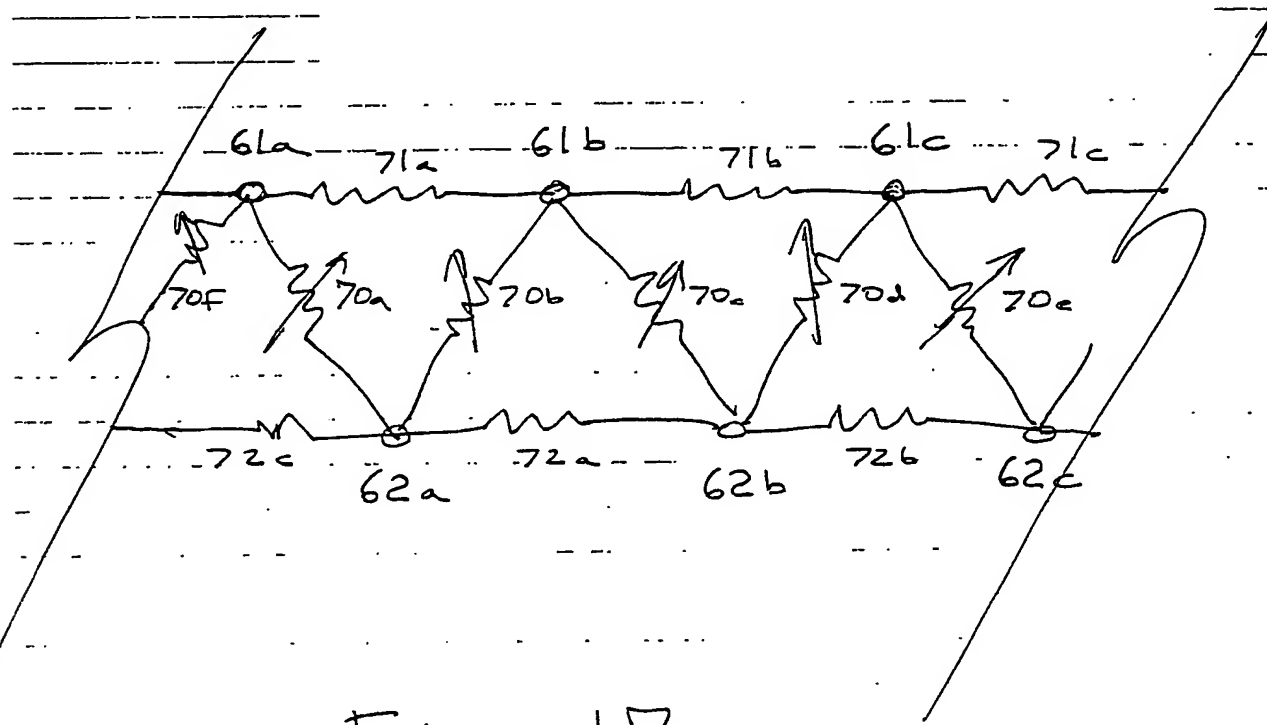


Fig 17

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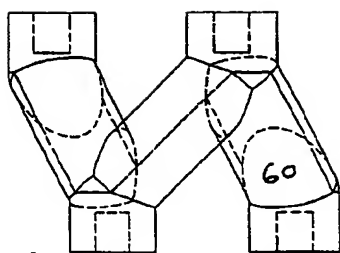


Fig 18a

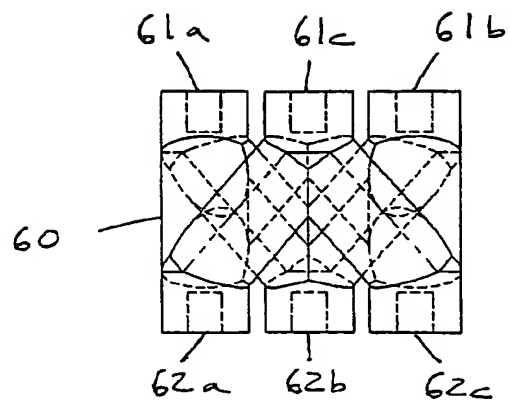


Fig 18b

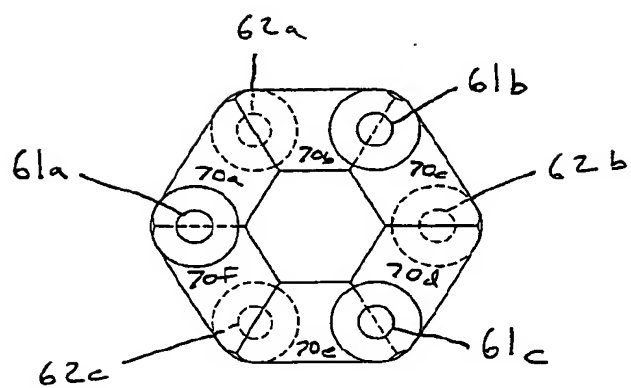


Fig. 18c

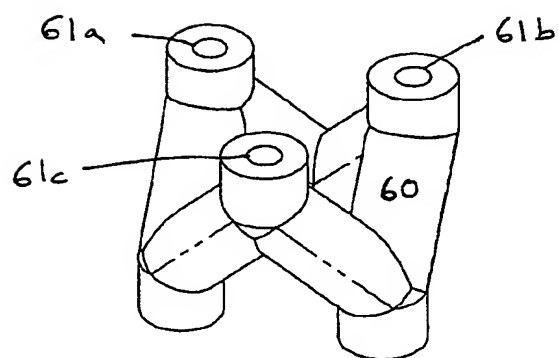


Fig. 18d

CIRCUIT DIAGRAM
FOR "SPIDER"

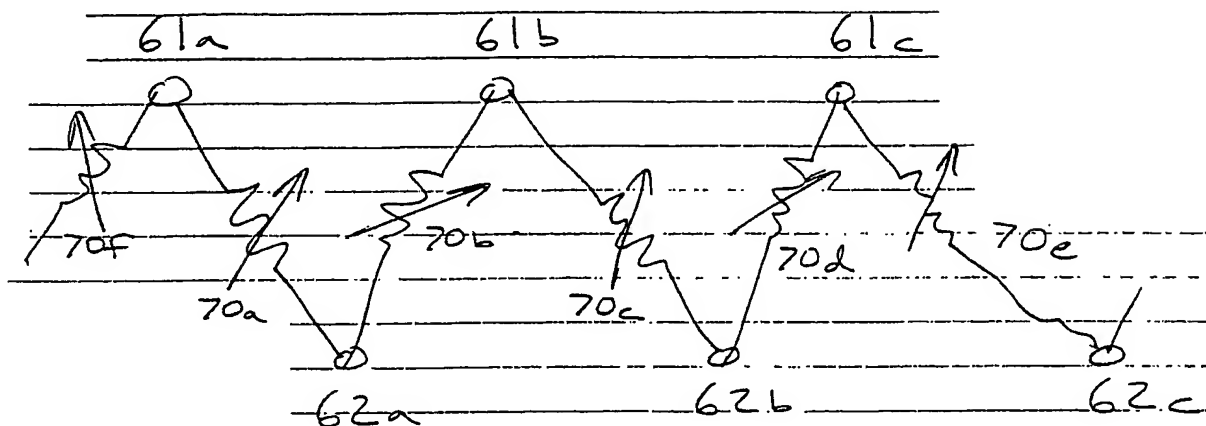
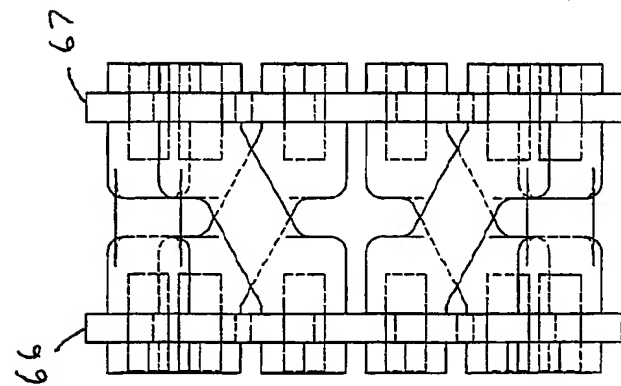
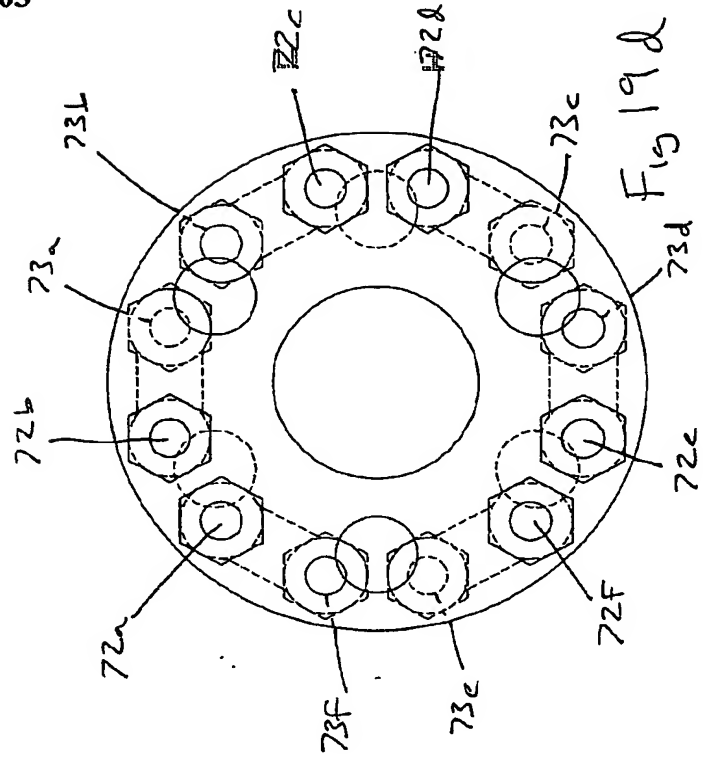
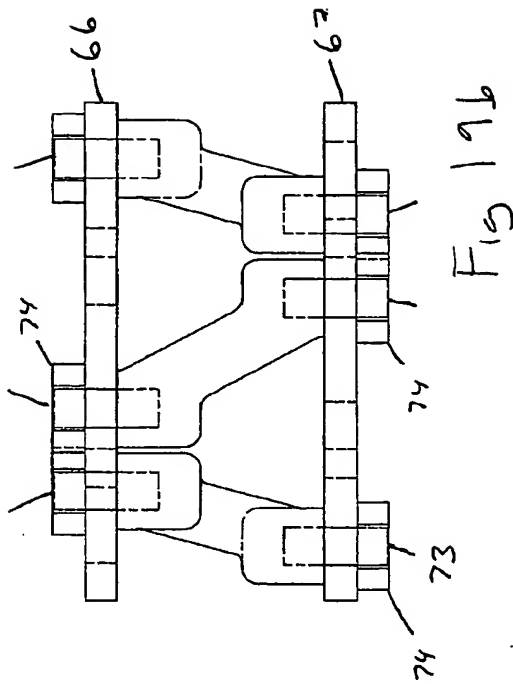
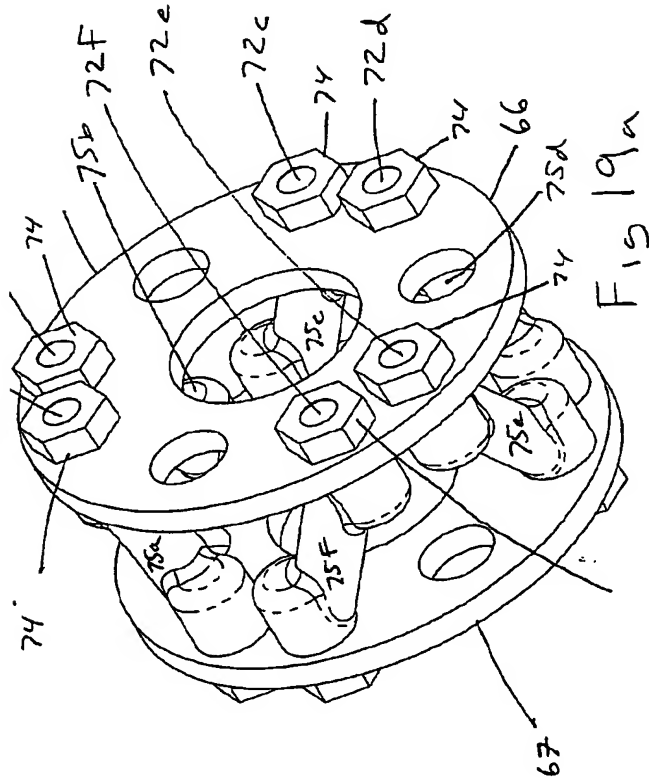


Fig 18e

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CIRCUIT DIAGRAM
FOR INDEPENDANT CIRCUIT
ELEMENTS

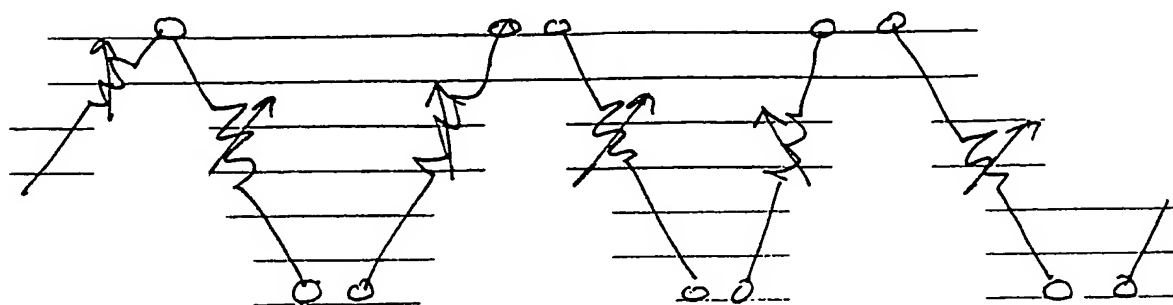


Fig 19e.

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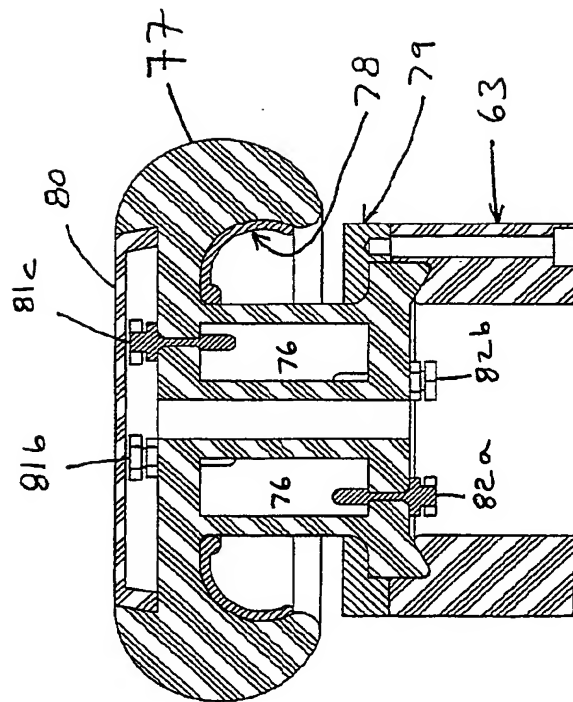
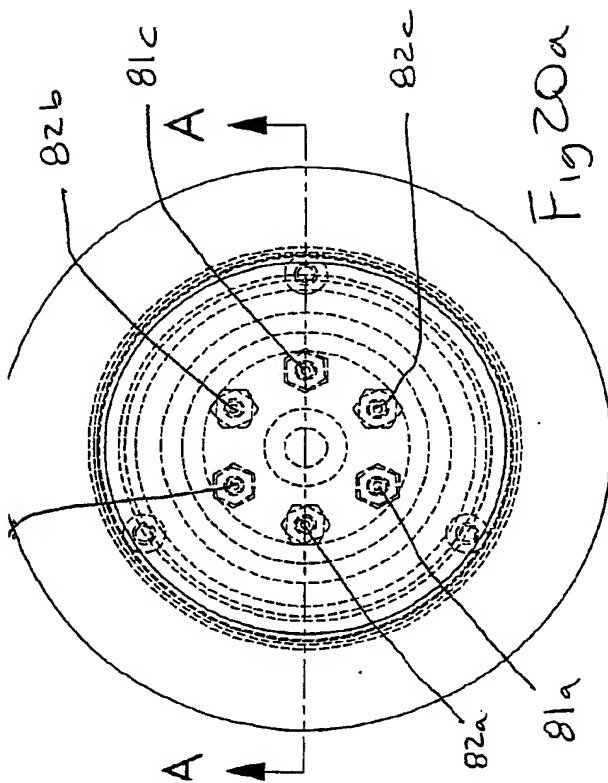


Fig. 20b
SECTION A-A

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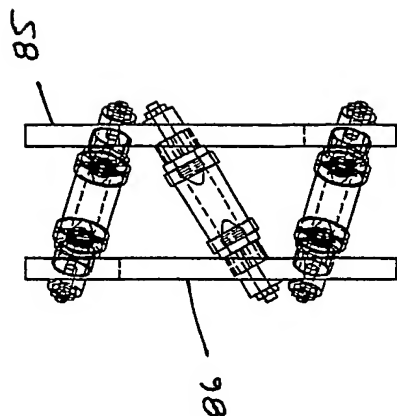


Fig 21e

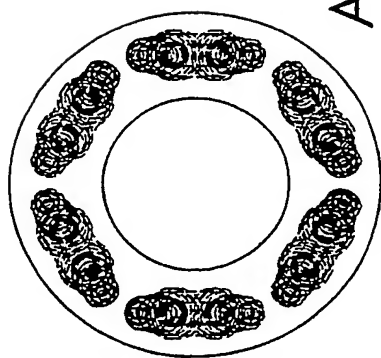


Fig 21a

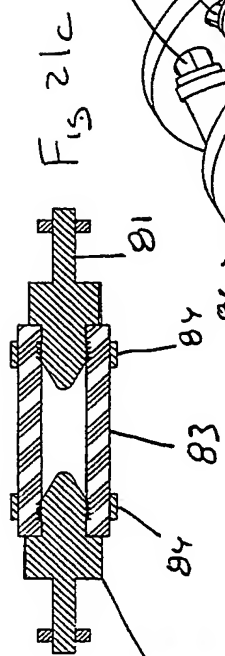
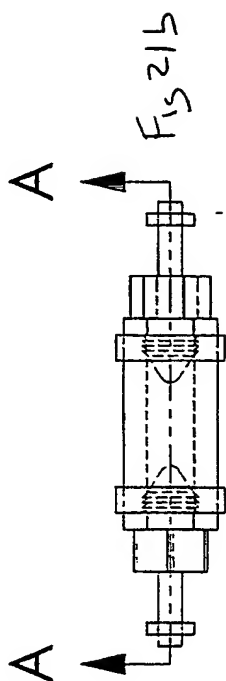


Fig 21c

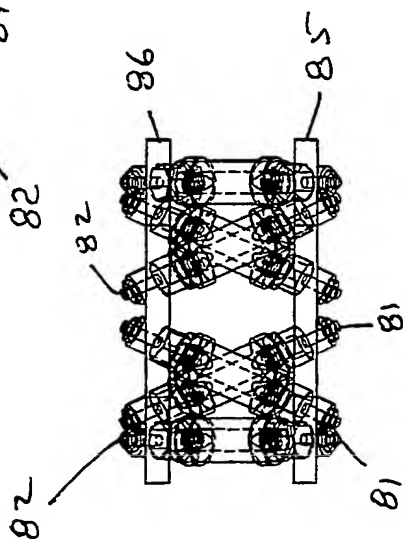


Fig 21d

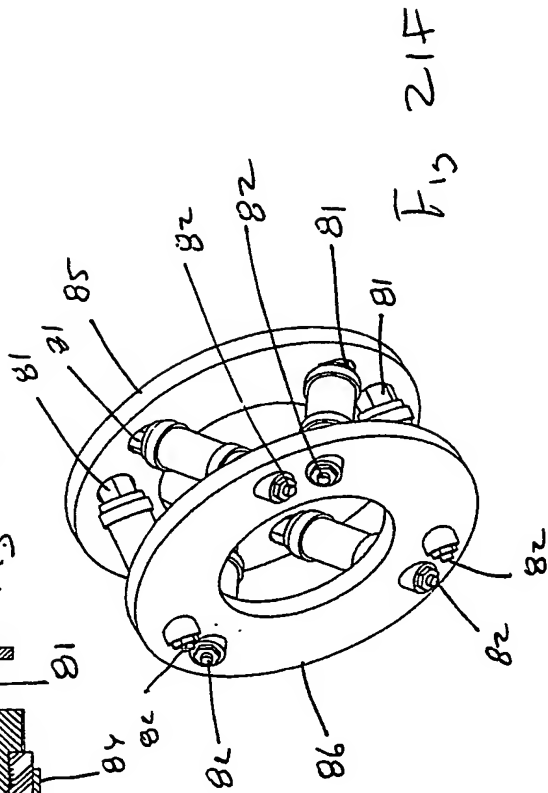


Fig 21f

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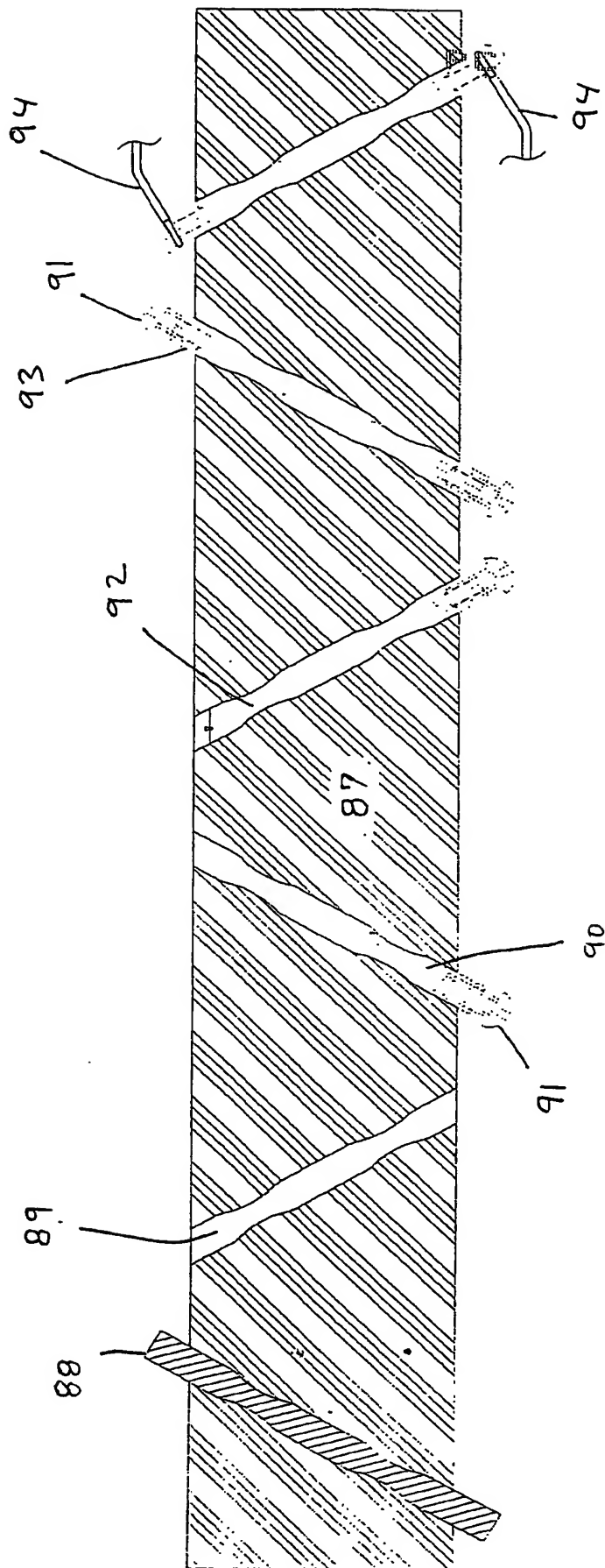


Fig 22

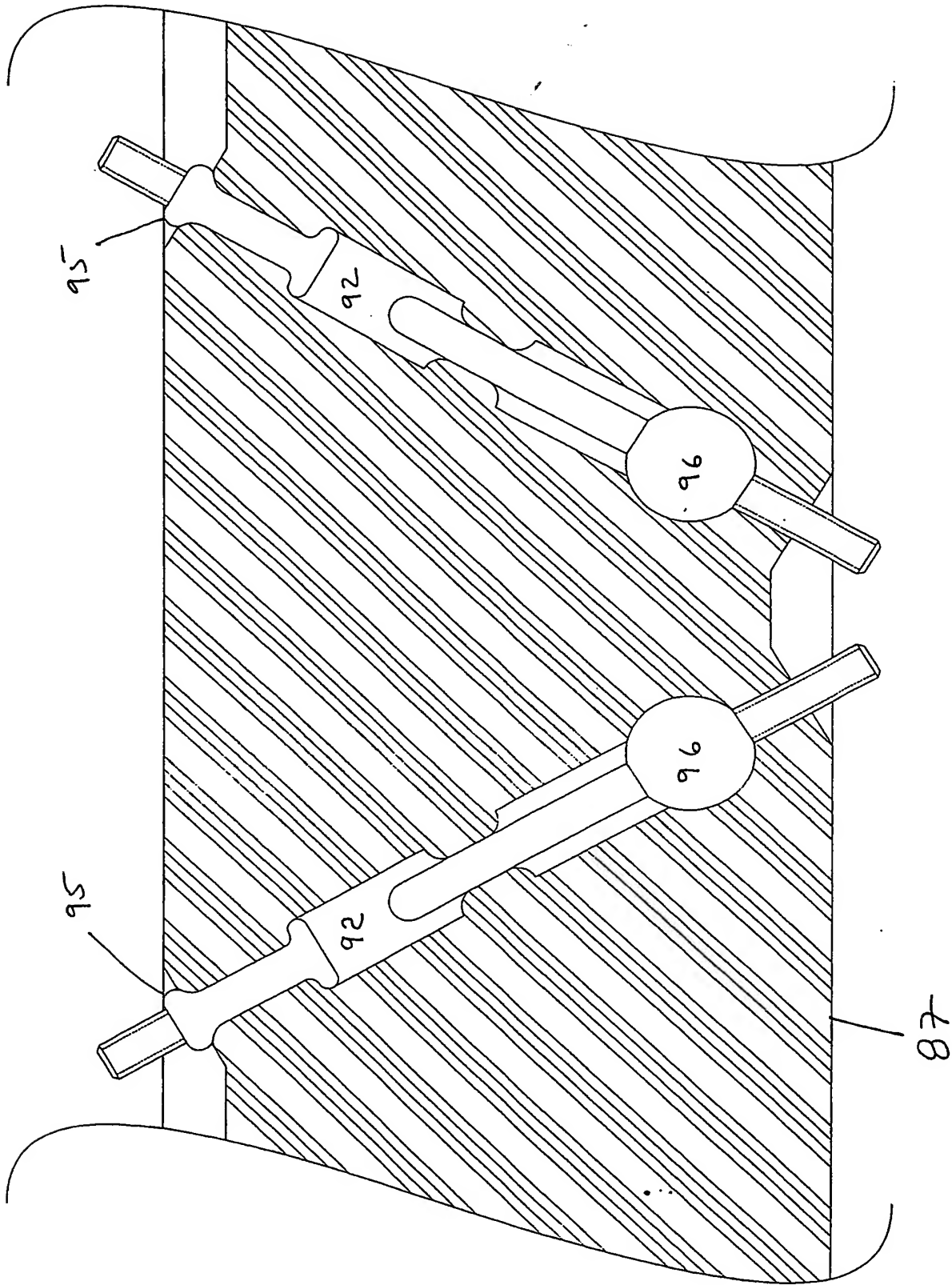


Fig 23

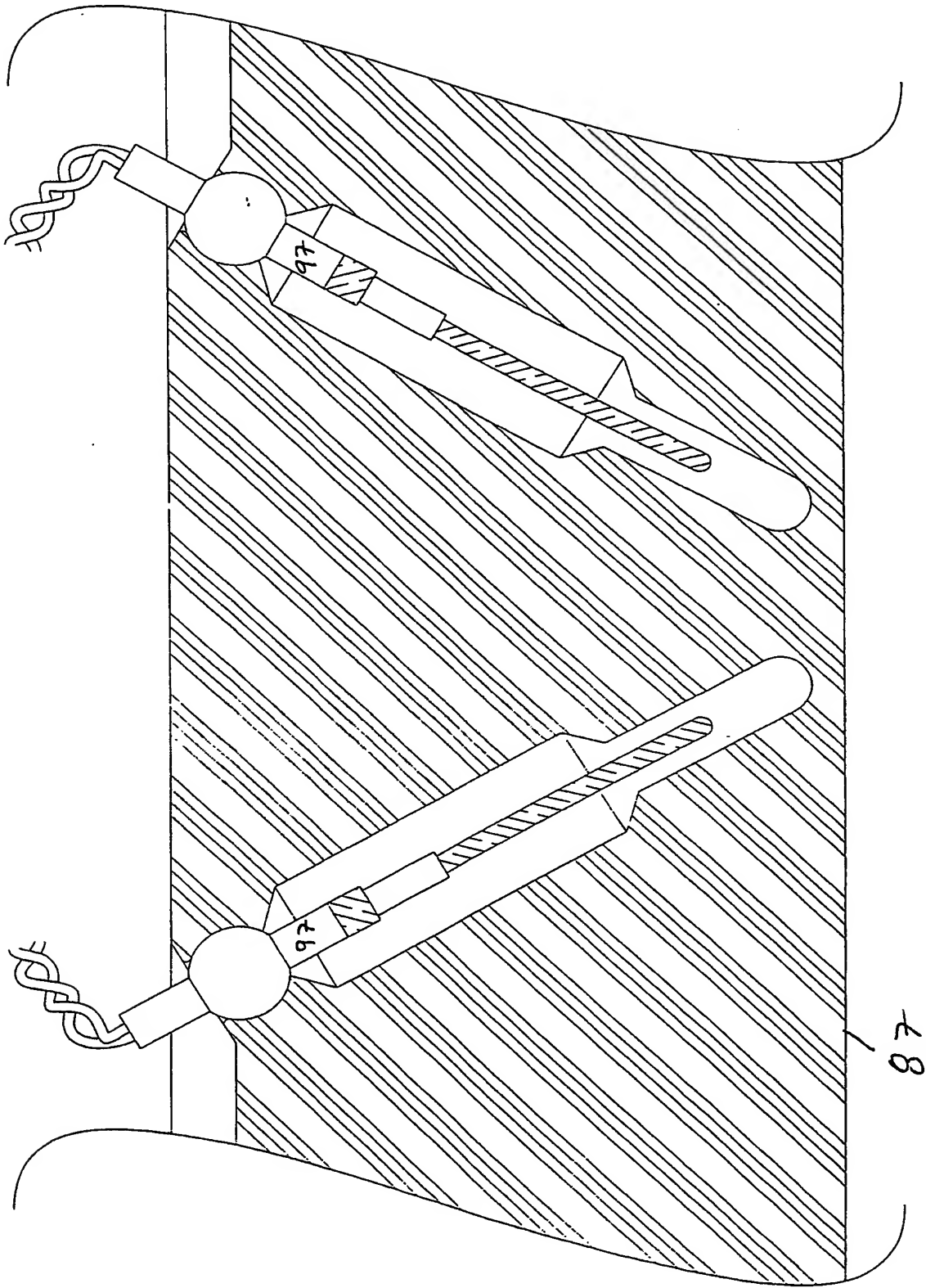


FIG 24

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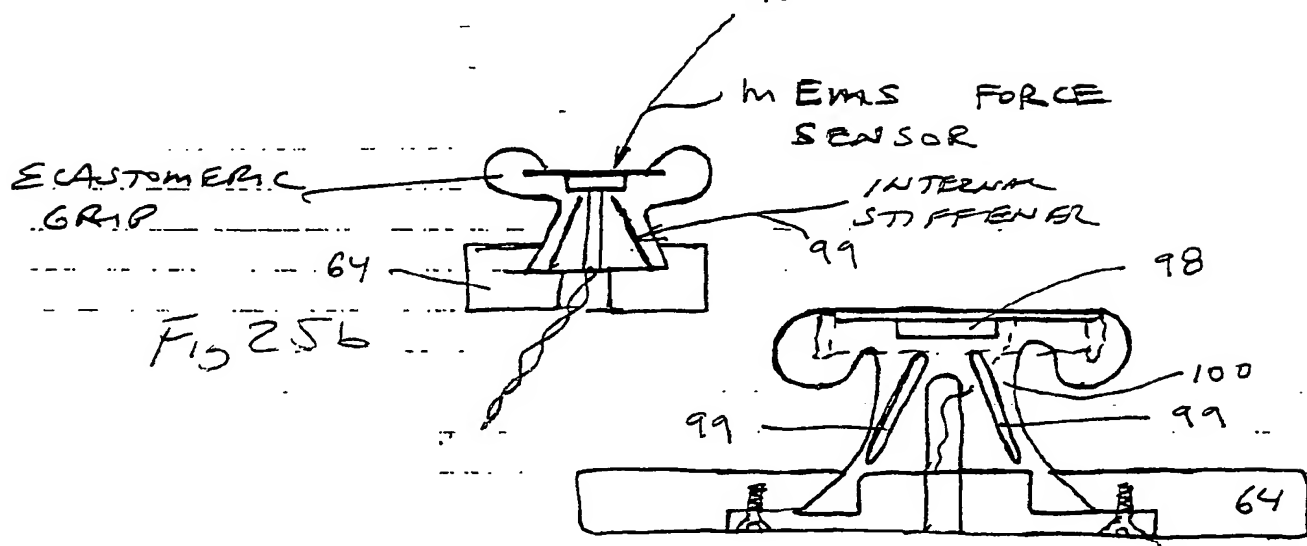
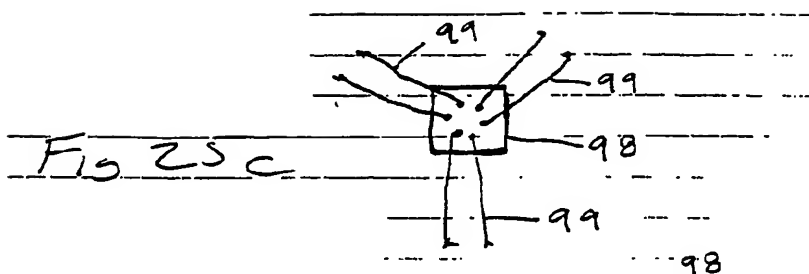


Fig 25a

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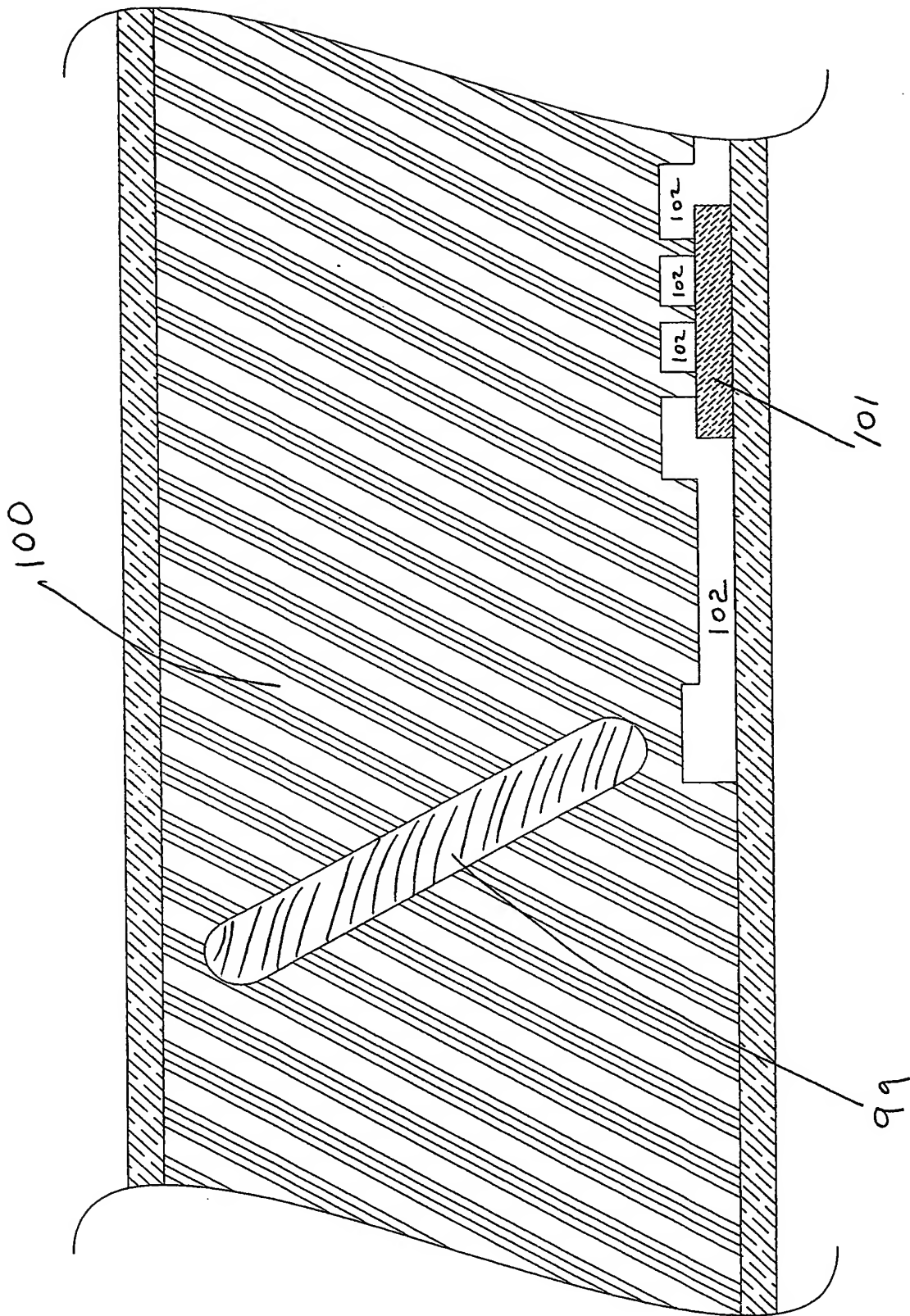


Fig 26

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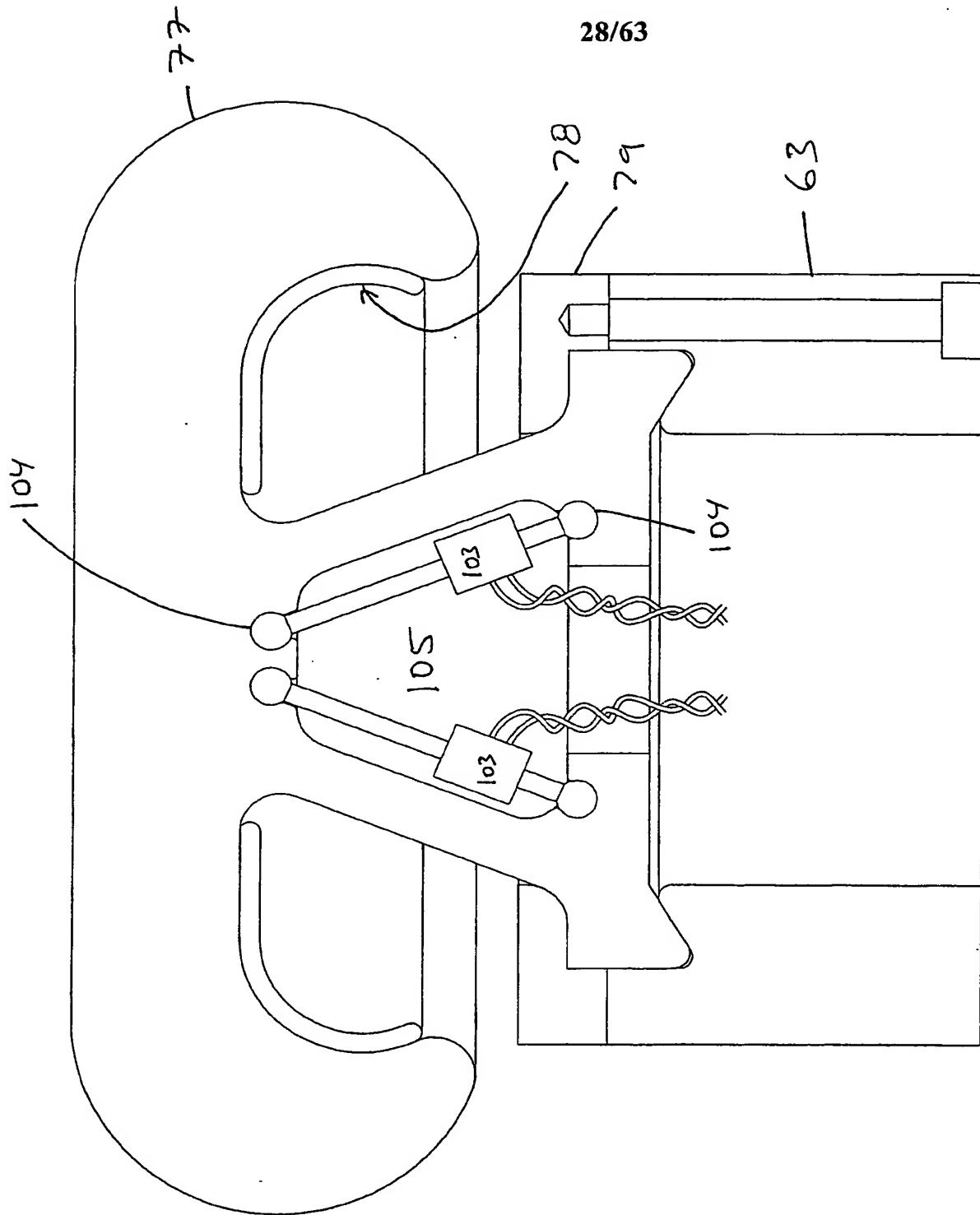


Fig 27

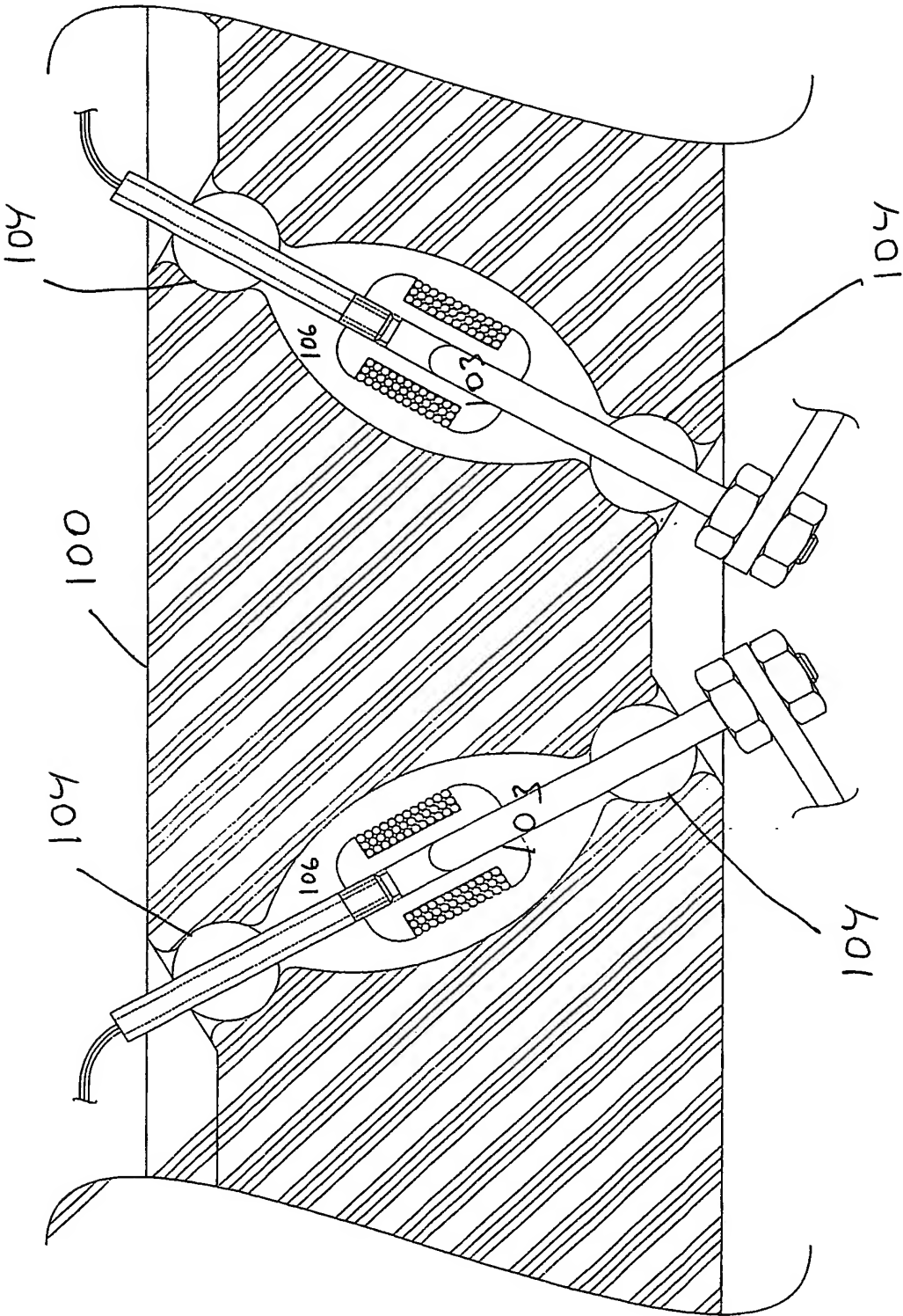


Fig 28

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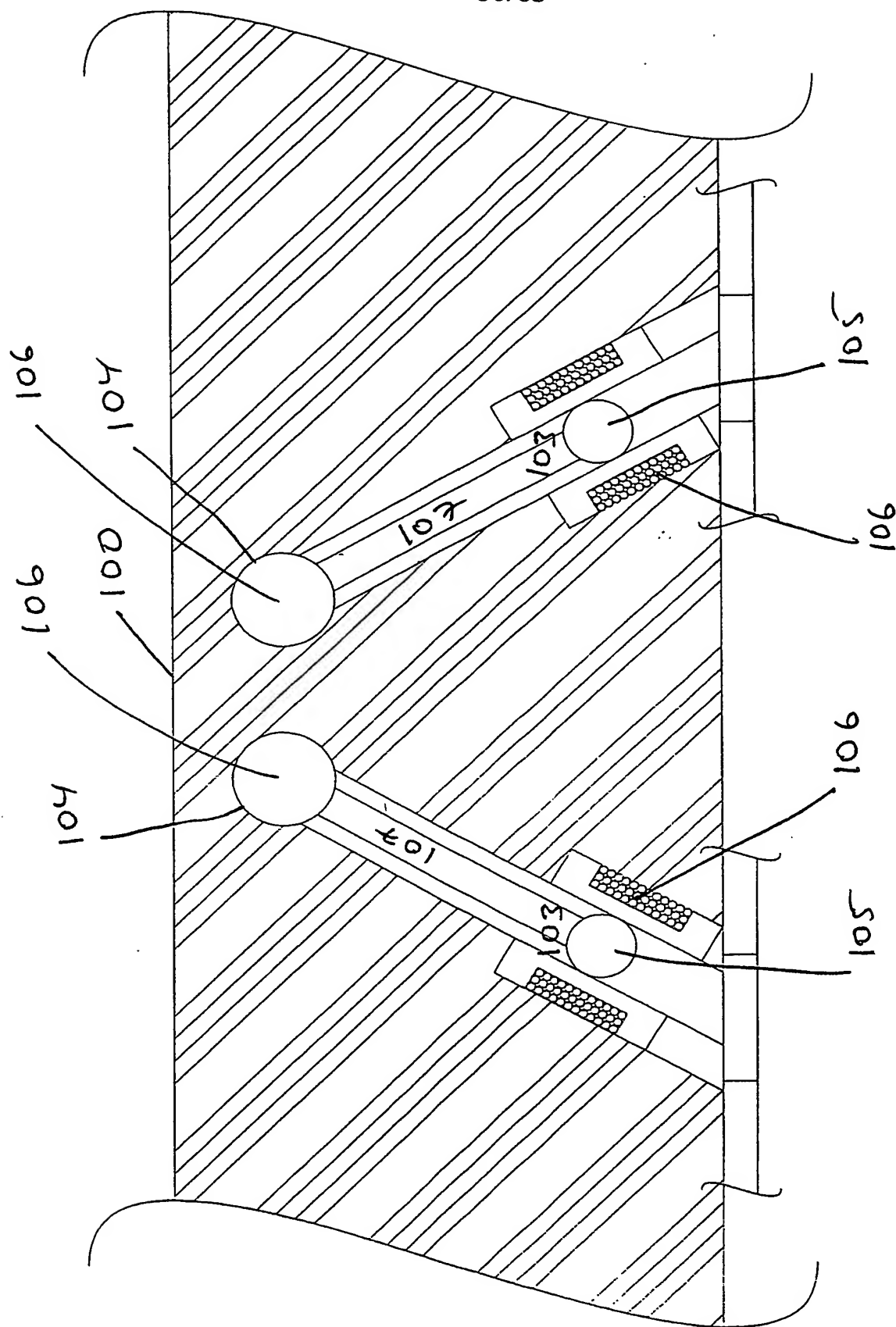


Fig 29

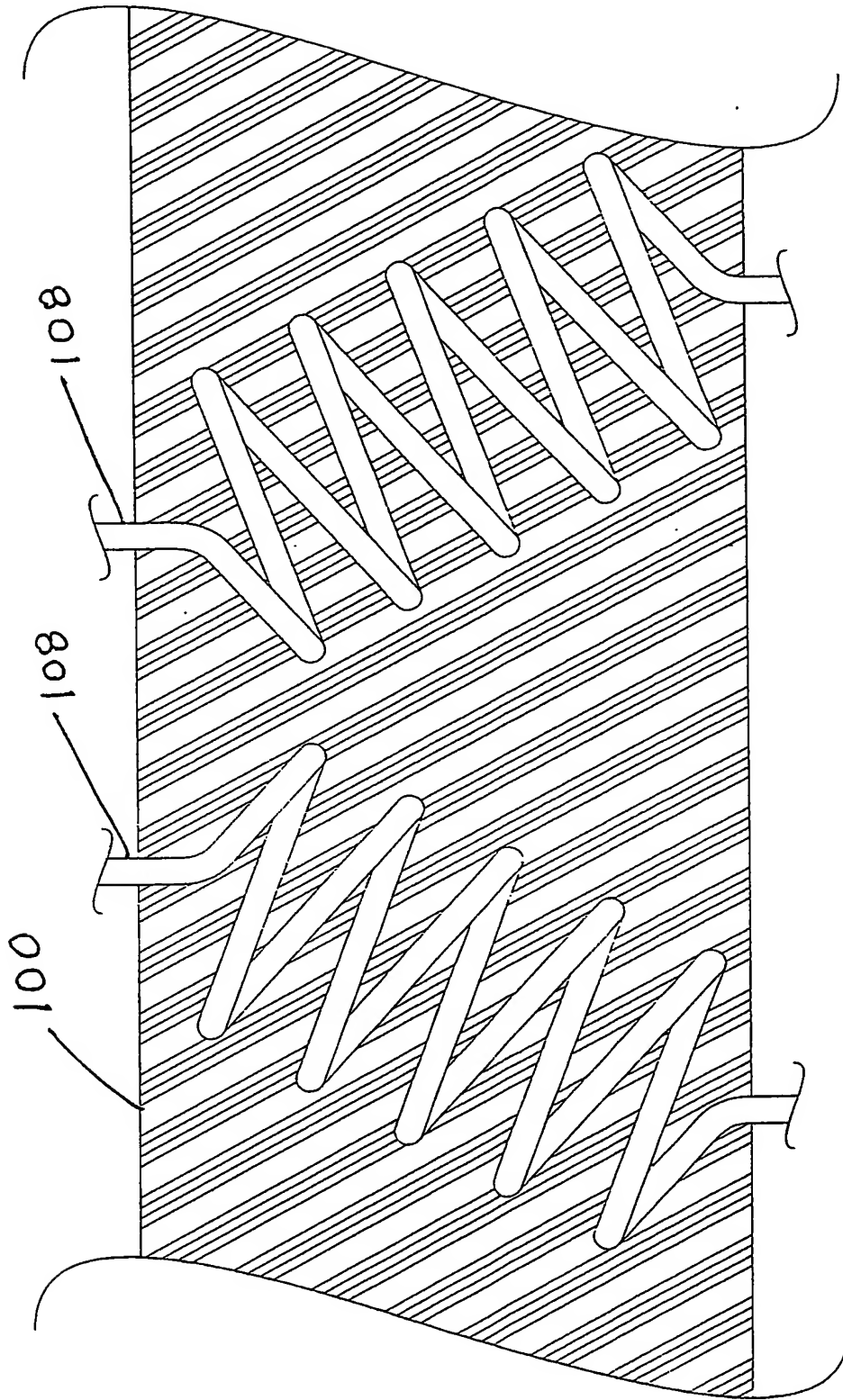


Fig 30

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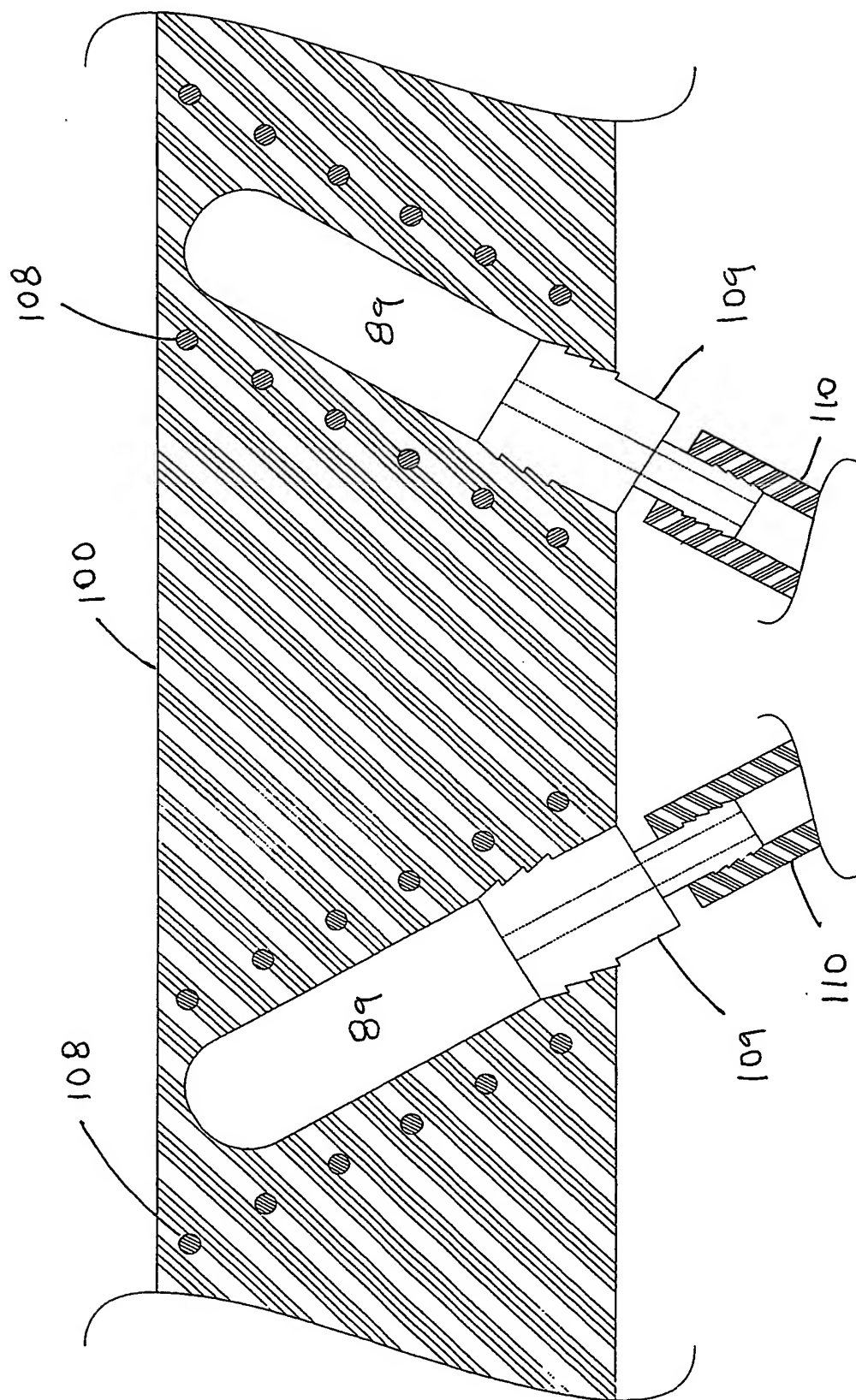


Fig 31

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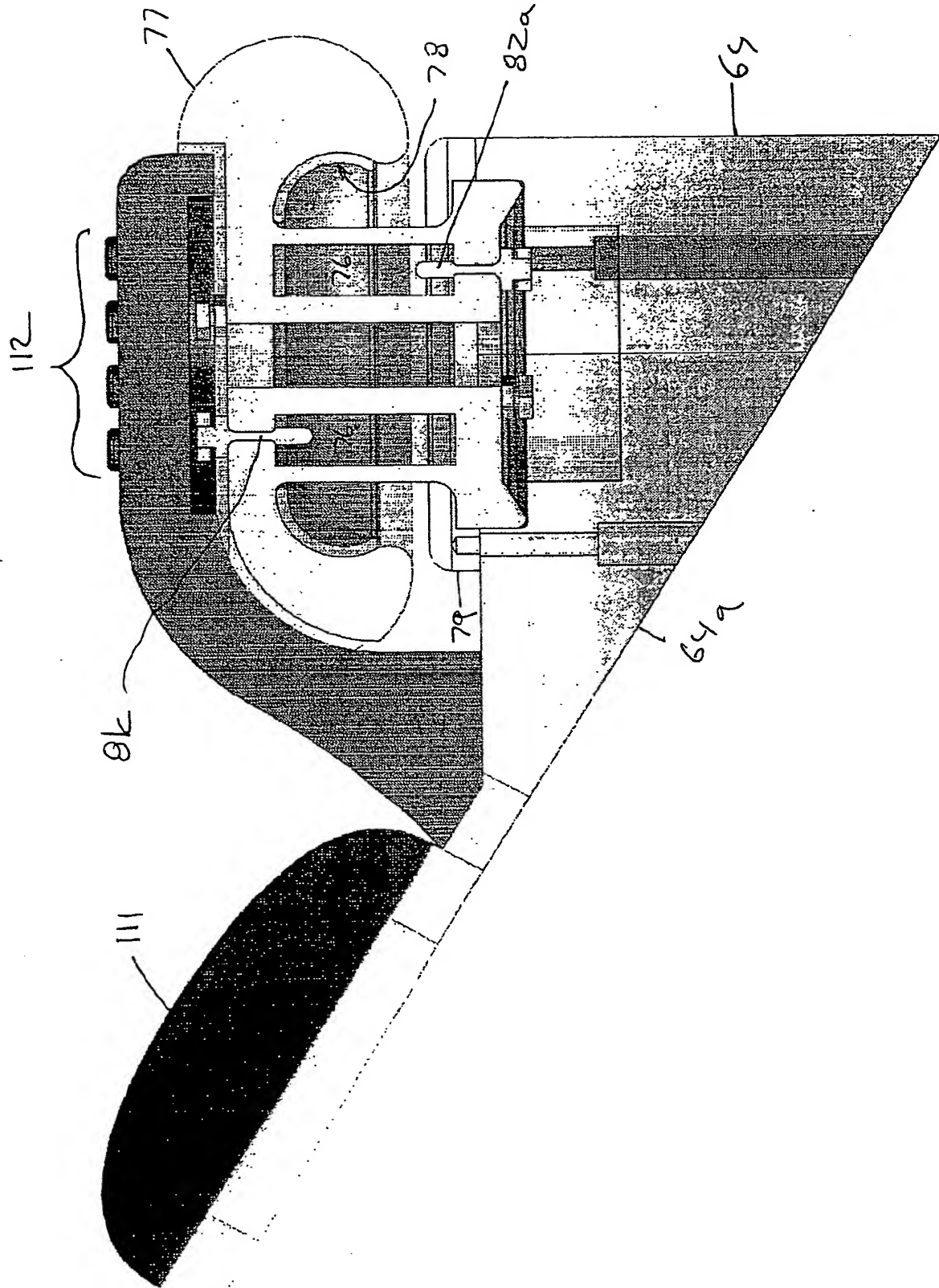


Fig. 32a

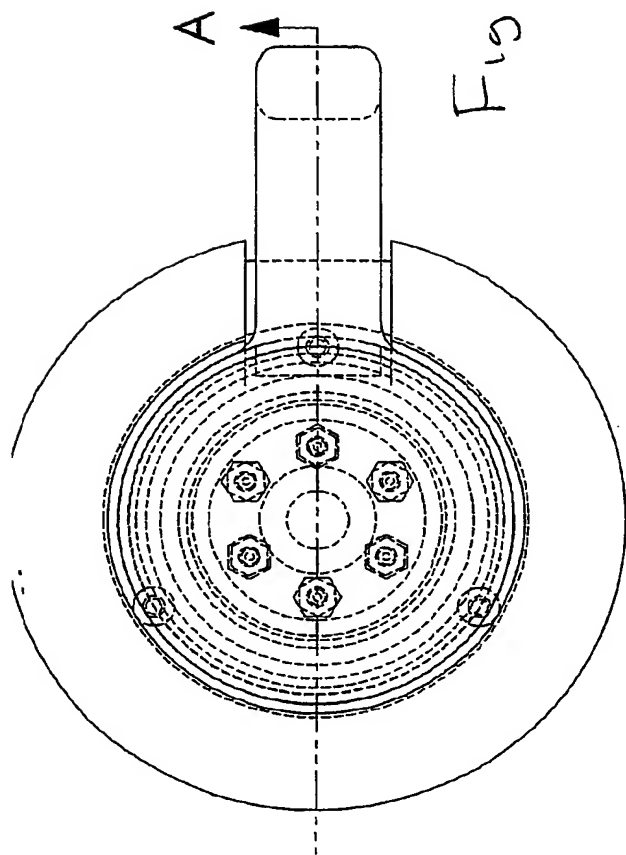


Fig 32.b

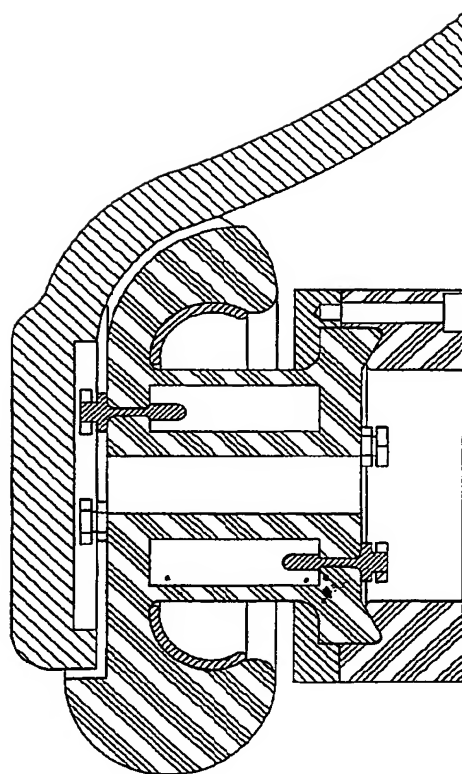


Fig 32c

SECTION A-A

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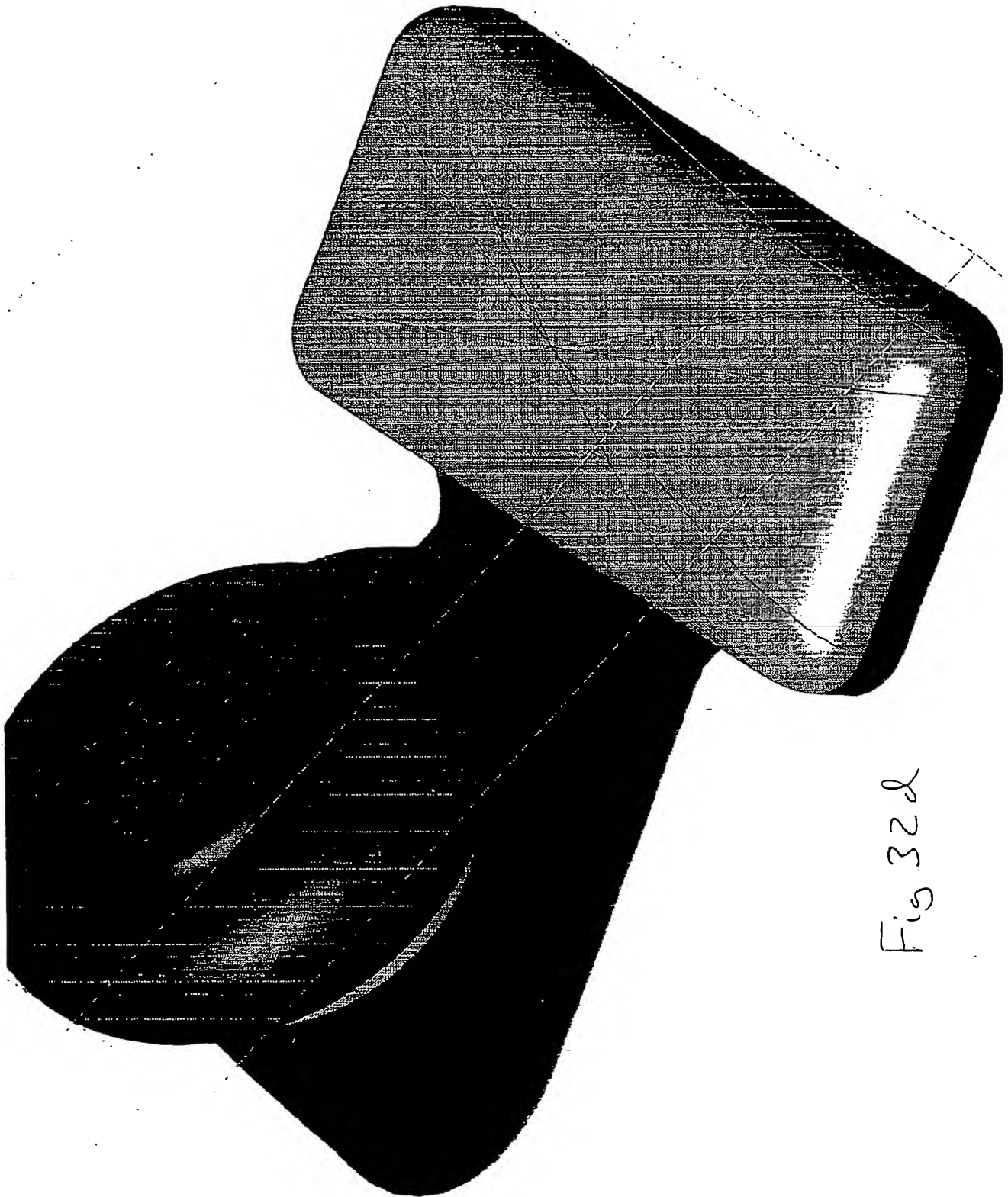


Fig 32d

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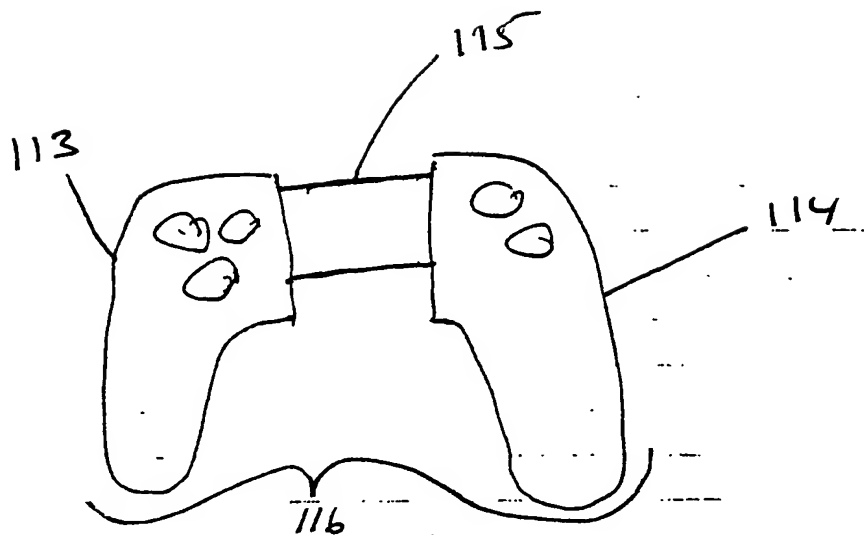


Fig 33

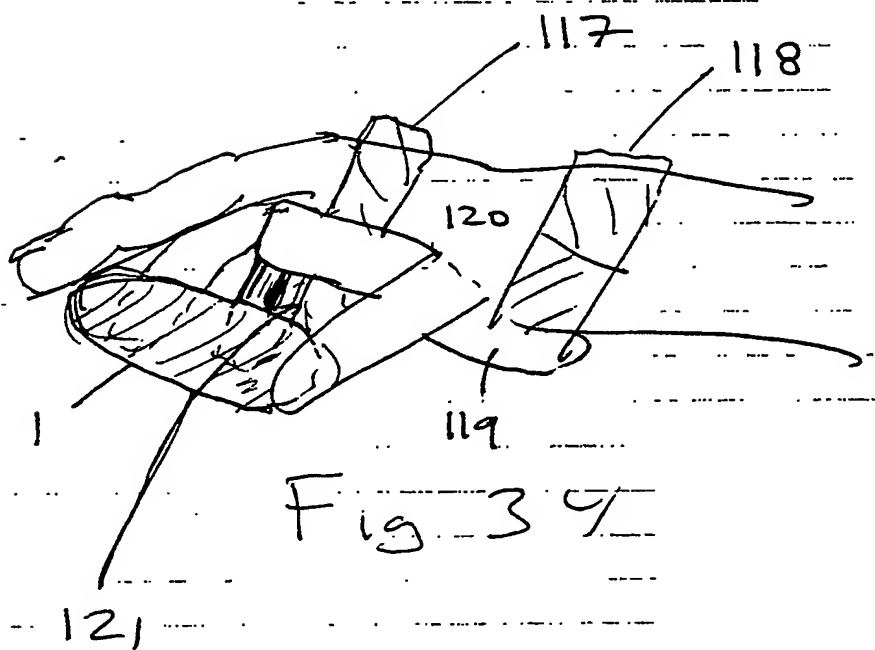


Fig 34

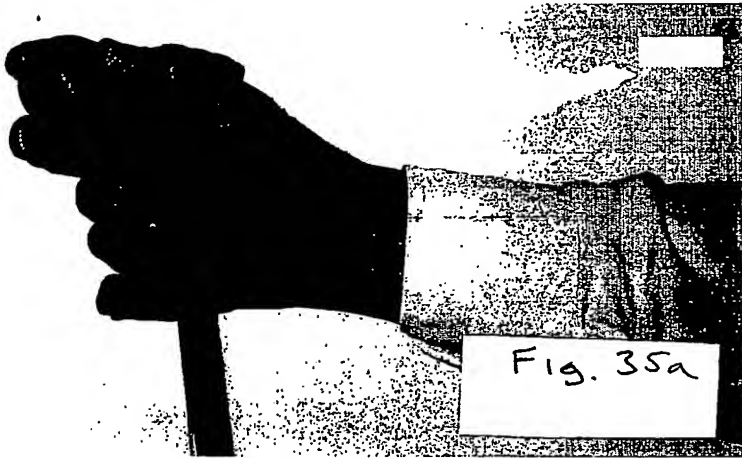


Fig. 35a



Fig 35c

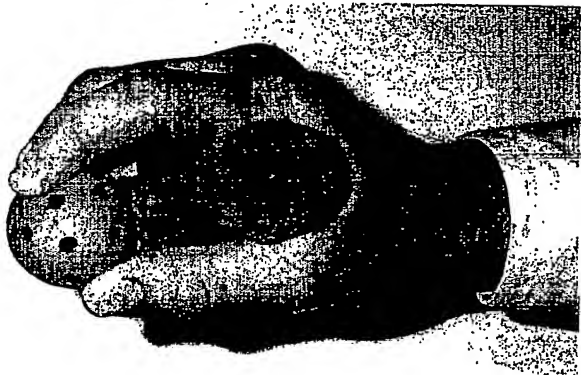


Fig. 35b



Fig 35d



Fig 35e

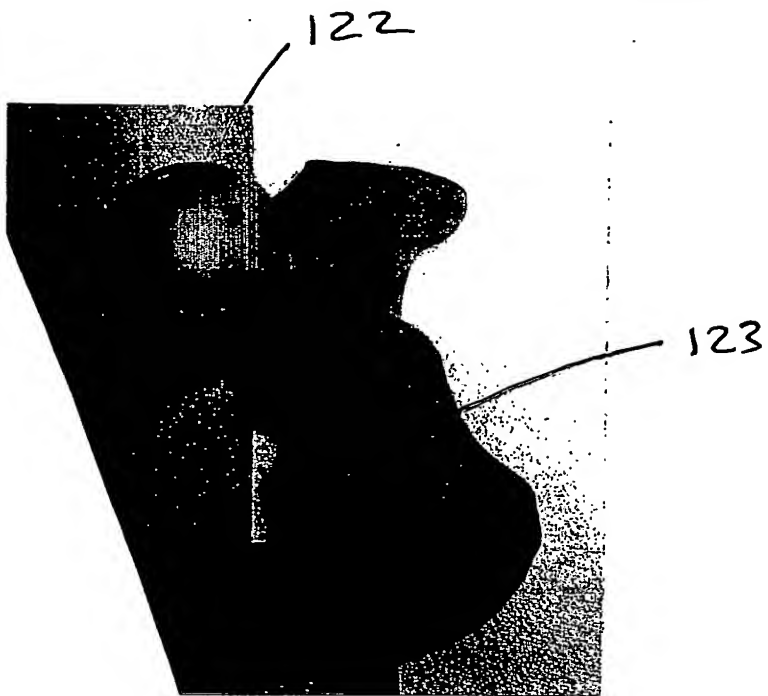


Fig 35f



Fig. 35g

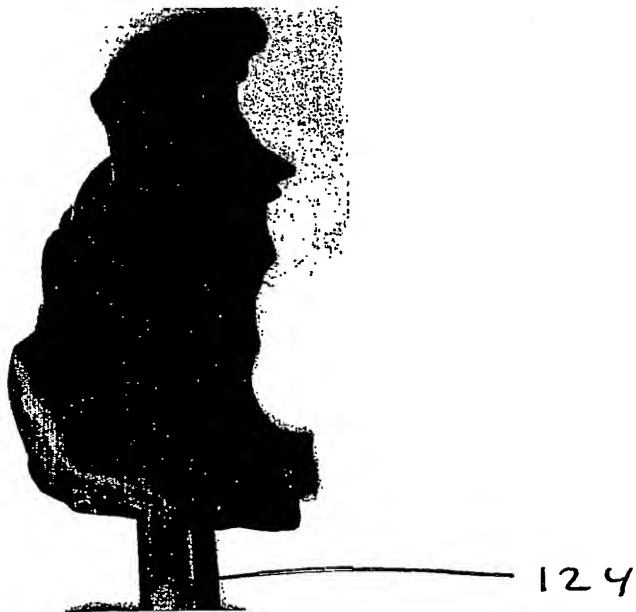


Fig 35h

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Fig 36a



Fig 36b

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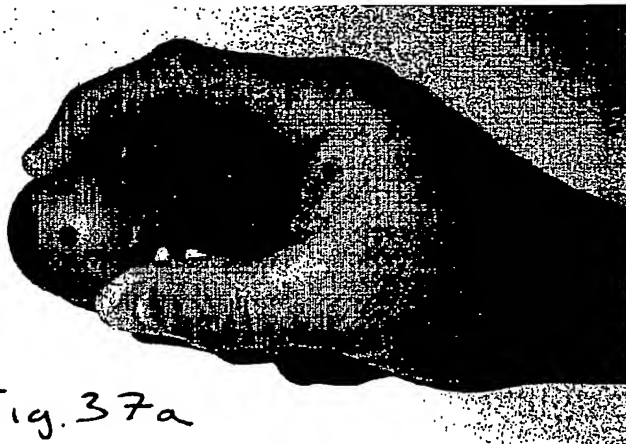


Fig. 37a

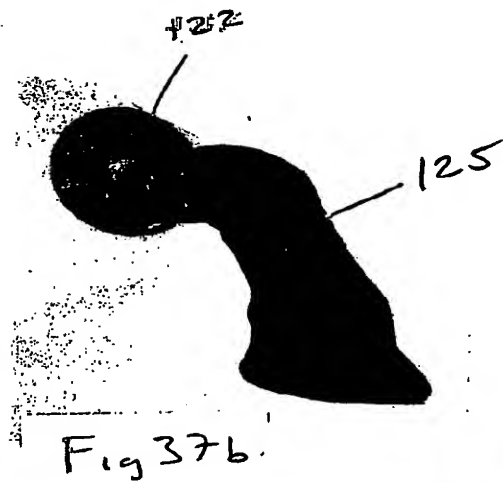


Fig. 37b

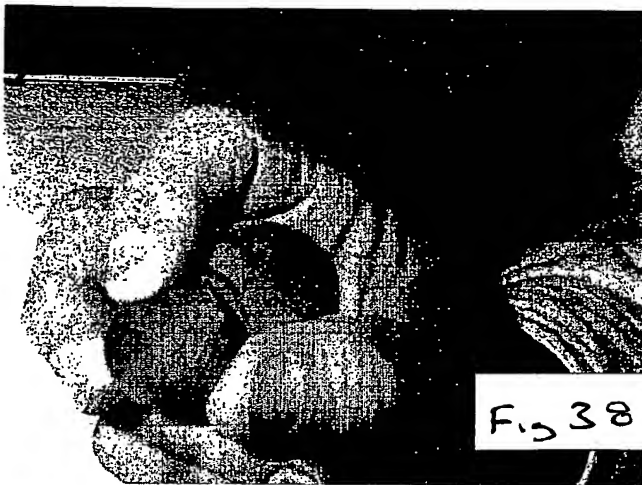


Fig. 38a



Fig. 38b

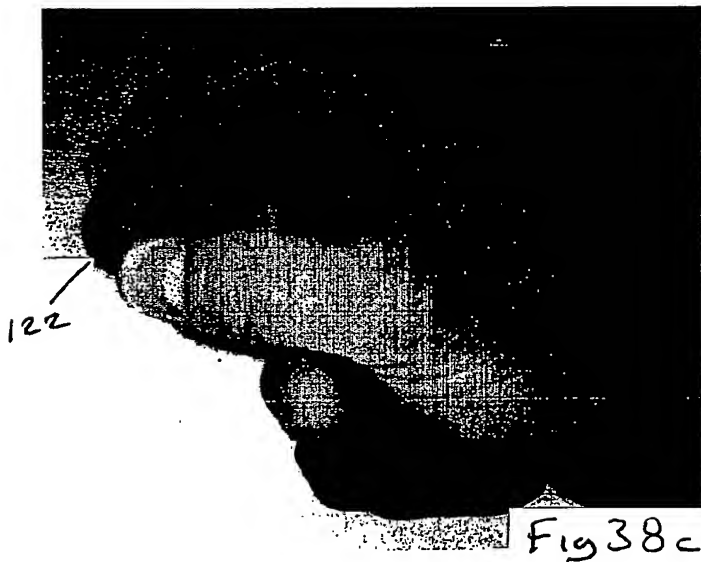


Fig. 38c

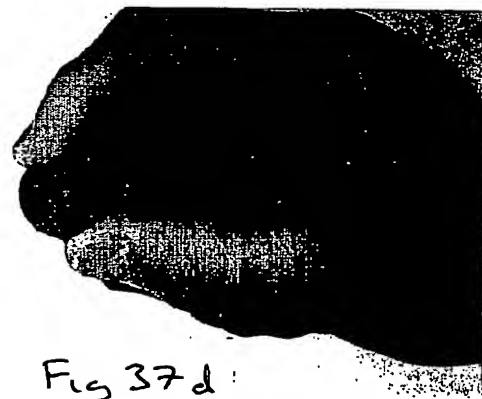


Fig. 37d

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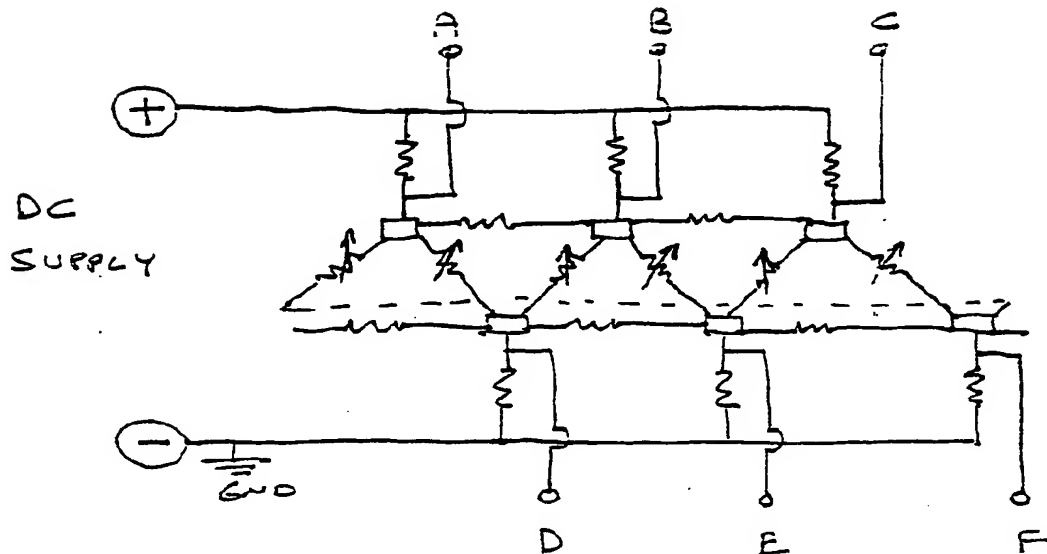


Fig 39

A, B, C, D, E, F, GND ARE CONNECTED TO
A/D CONVERTER CONNECTED TO COMPUTER.

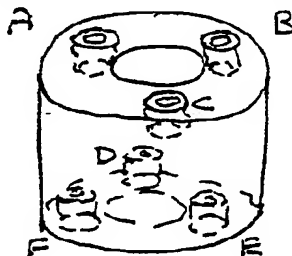


Fig 40a

ELASTOMERIC SENSING ELEMENT

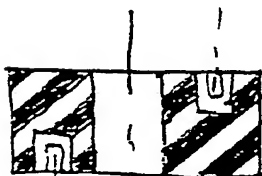


Fig 40b

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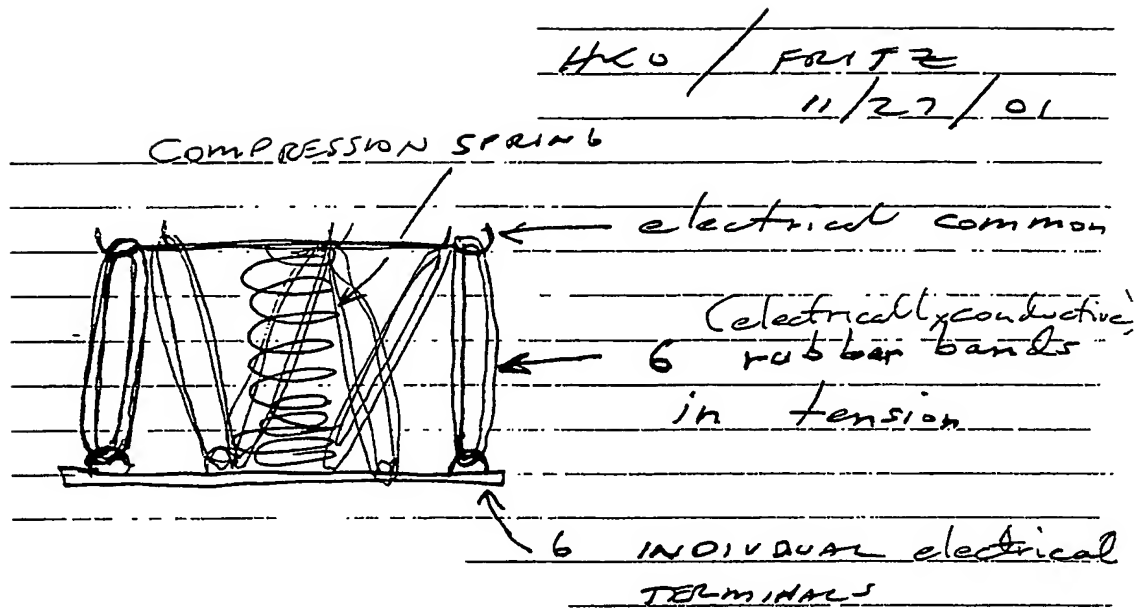


Fig 41

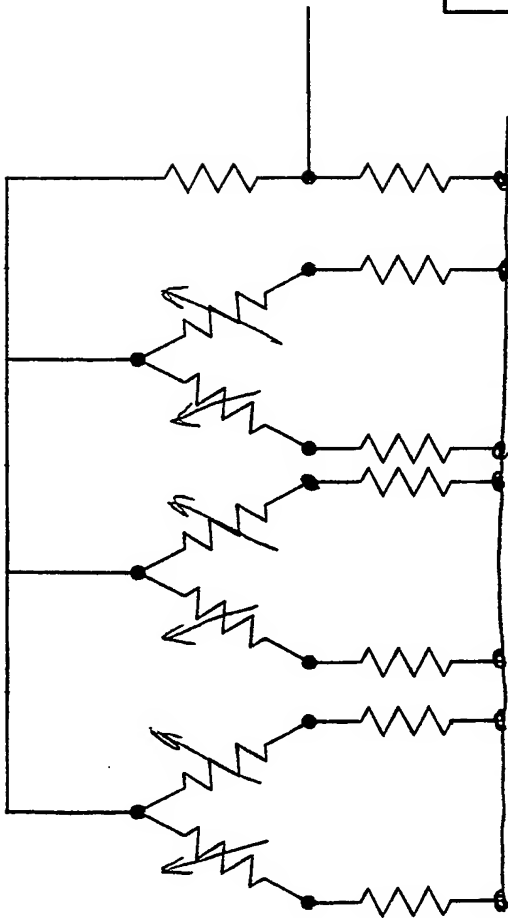


Fig 42

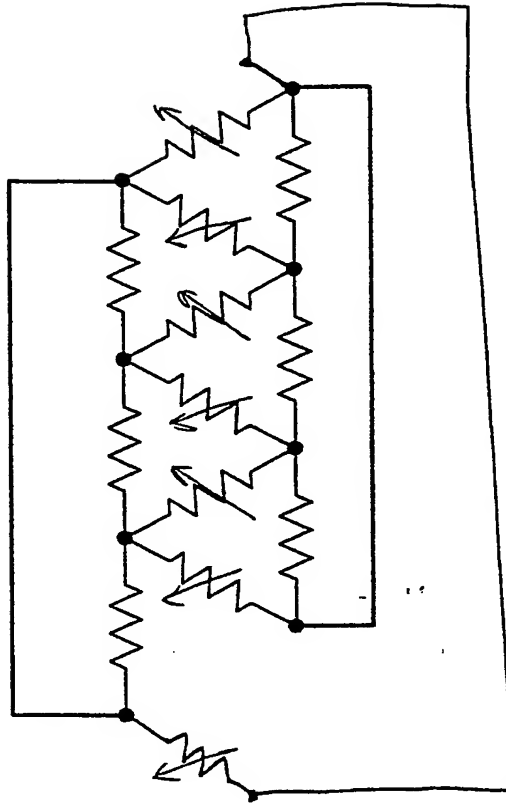
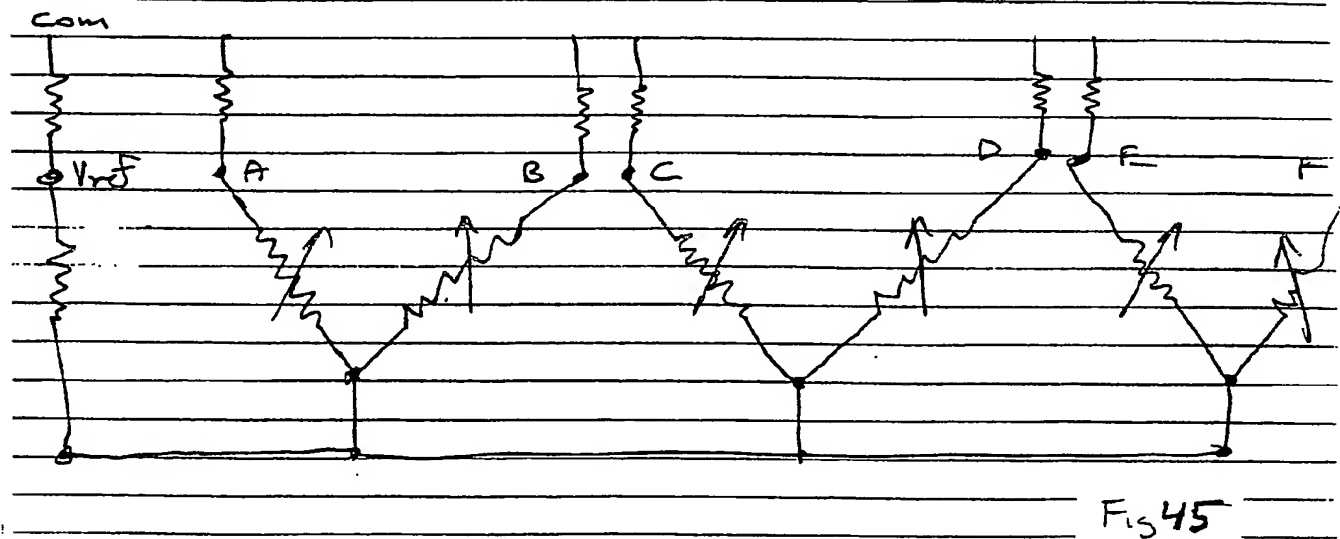
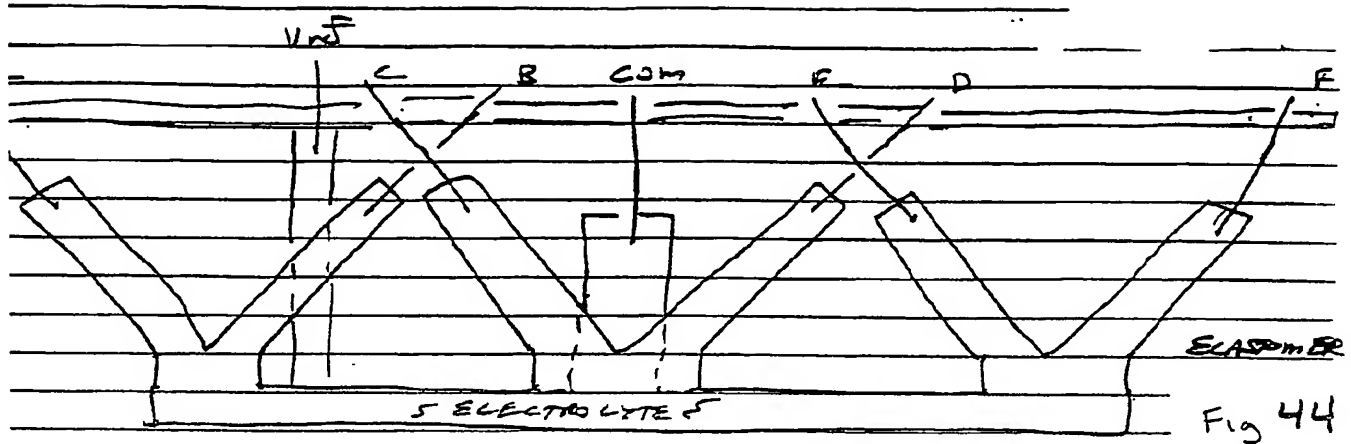
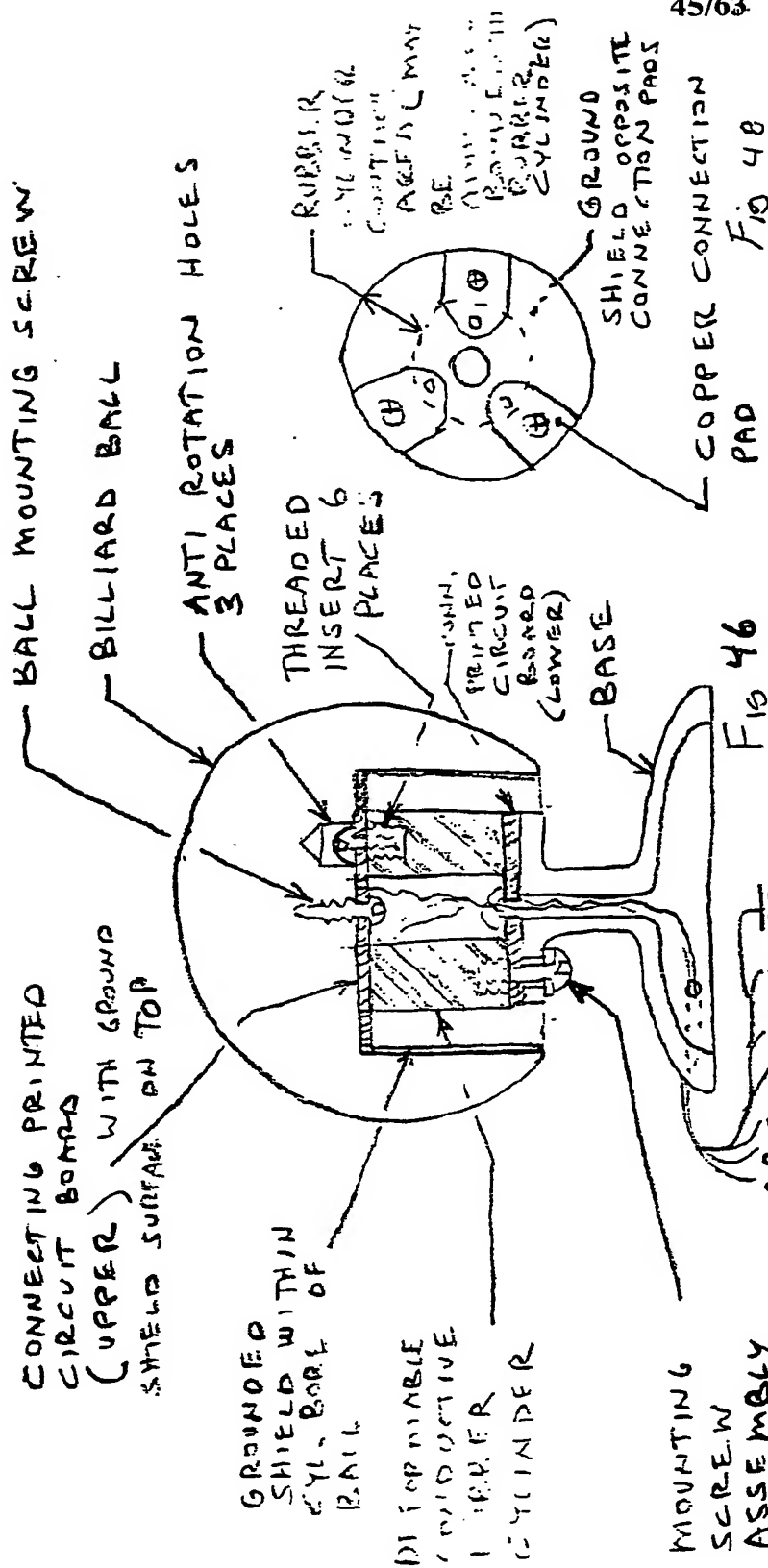


Fig 43

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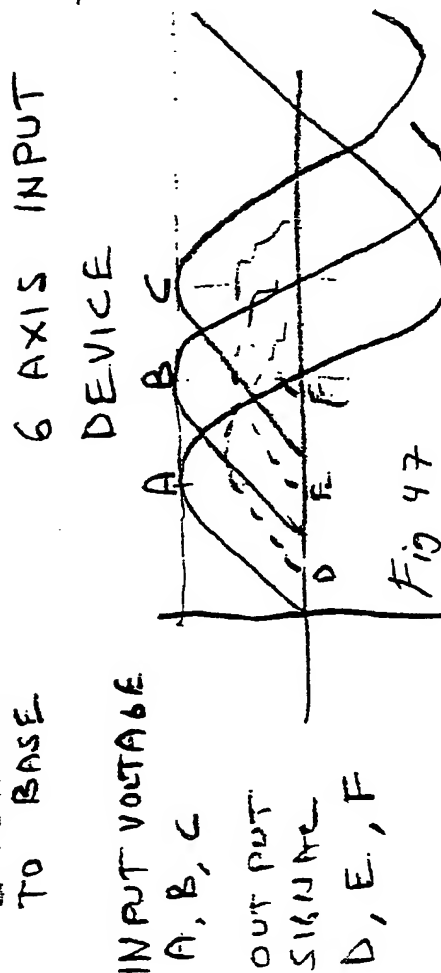


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CONNECTING
PRINTED CIRCUIT
BOARD (TYP.)

NOCTAGES :- PHASE
ANGLES OF D, E, A ARE
A FUNCTION OF
BALL POSITION &
ORIENTATION,



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Fig. 49a

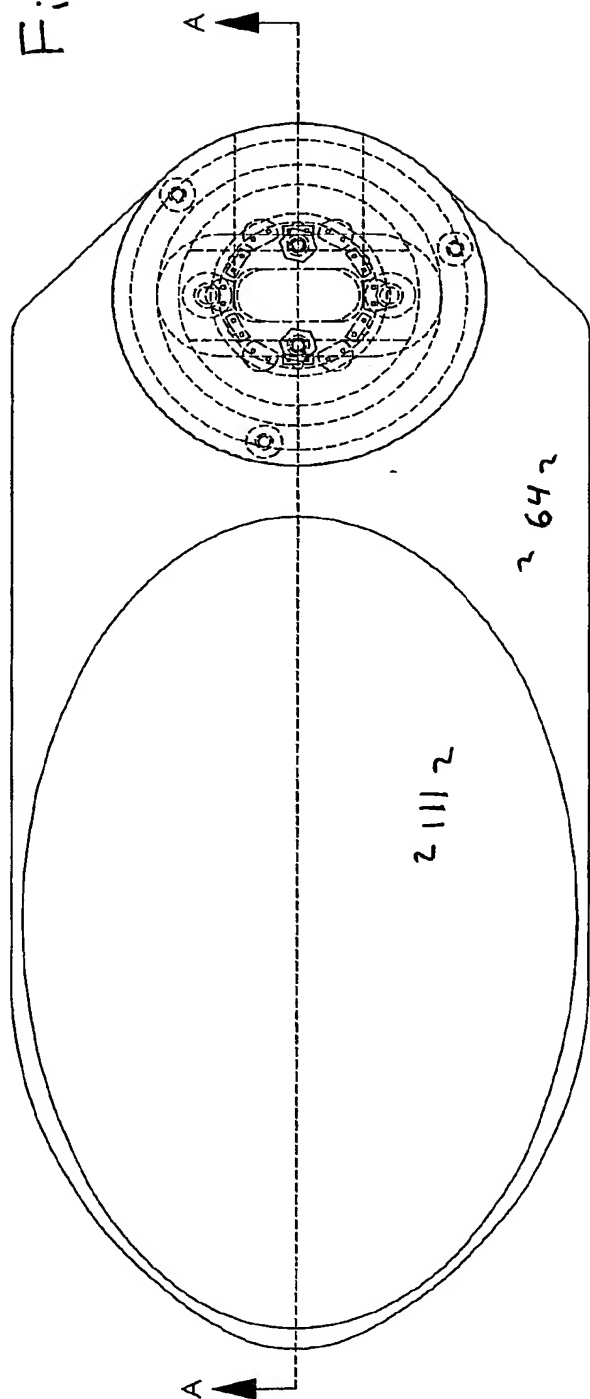
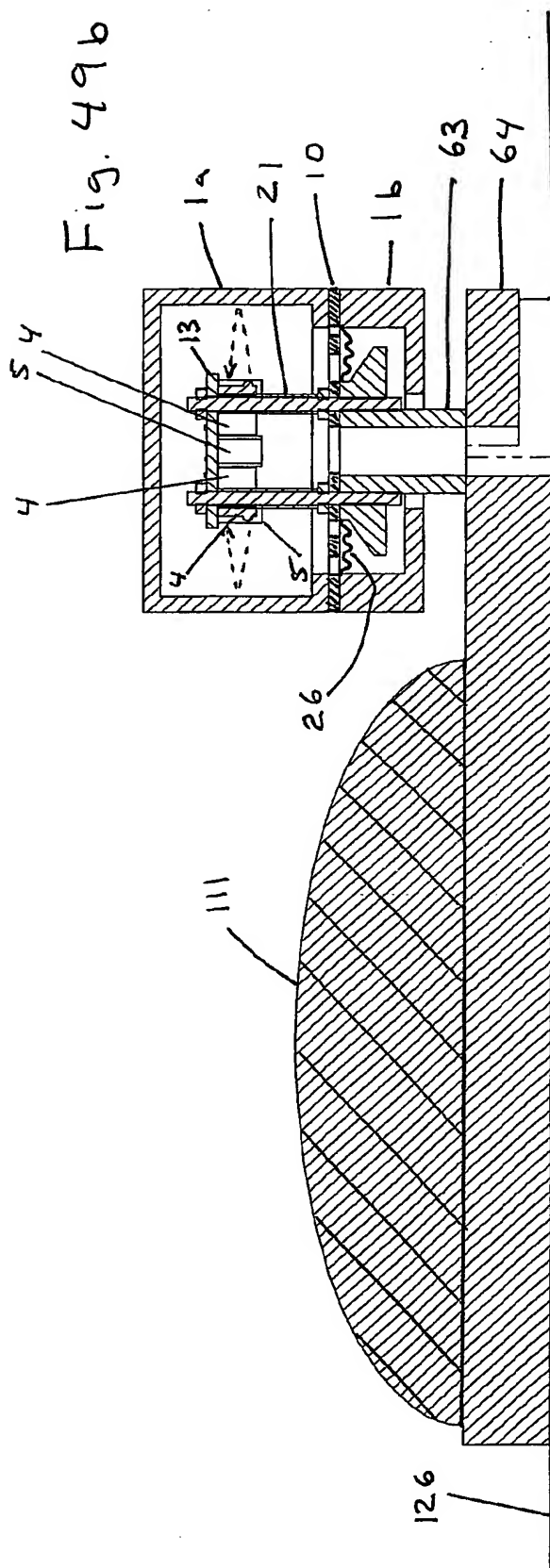


Fig. 49b



SECTION A-A
SCALE 1:1

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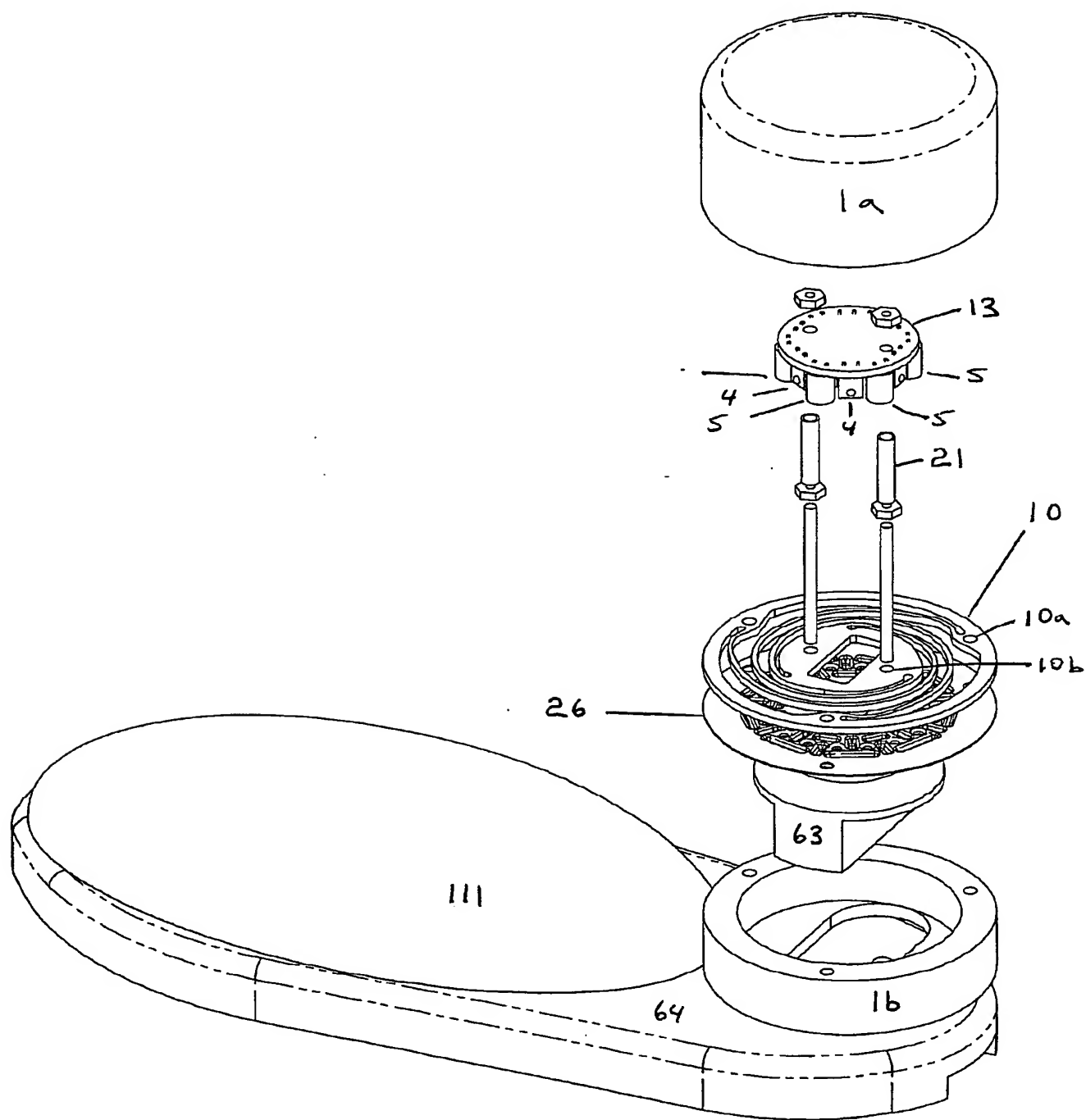
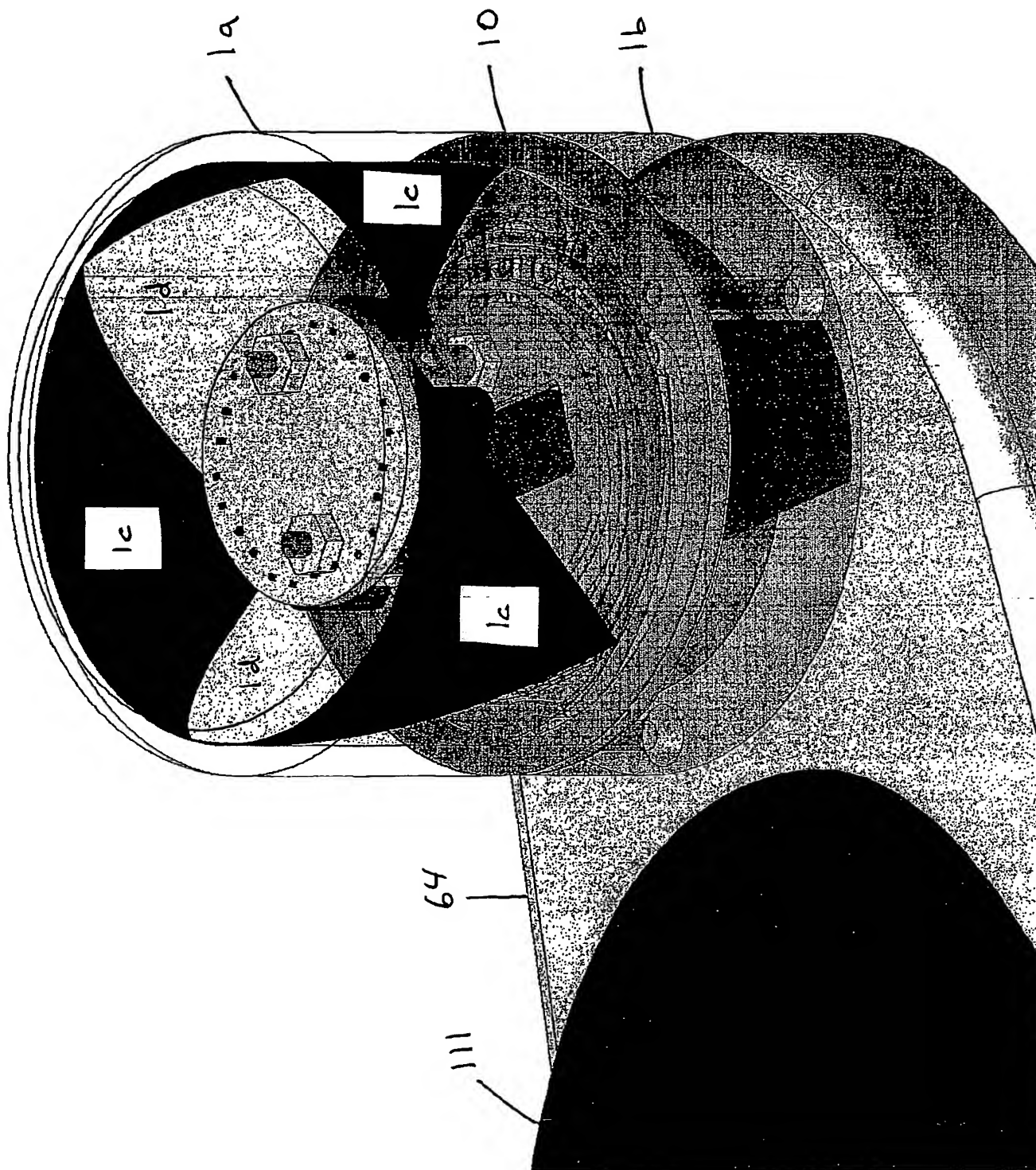


Fig 49c

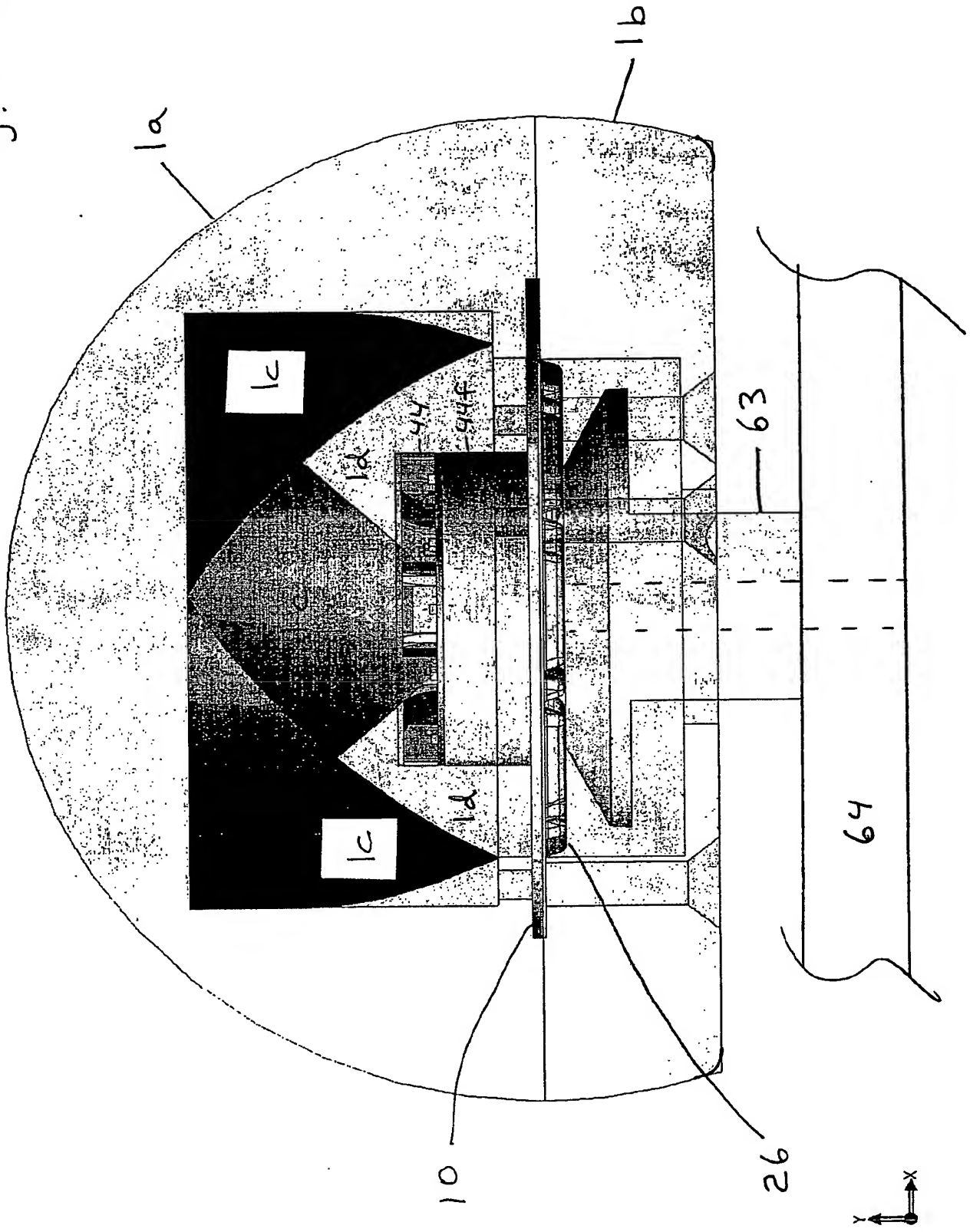
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Fig 49d



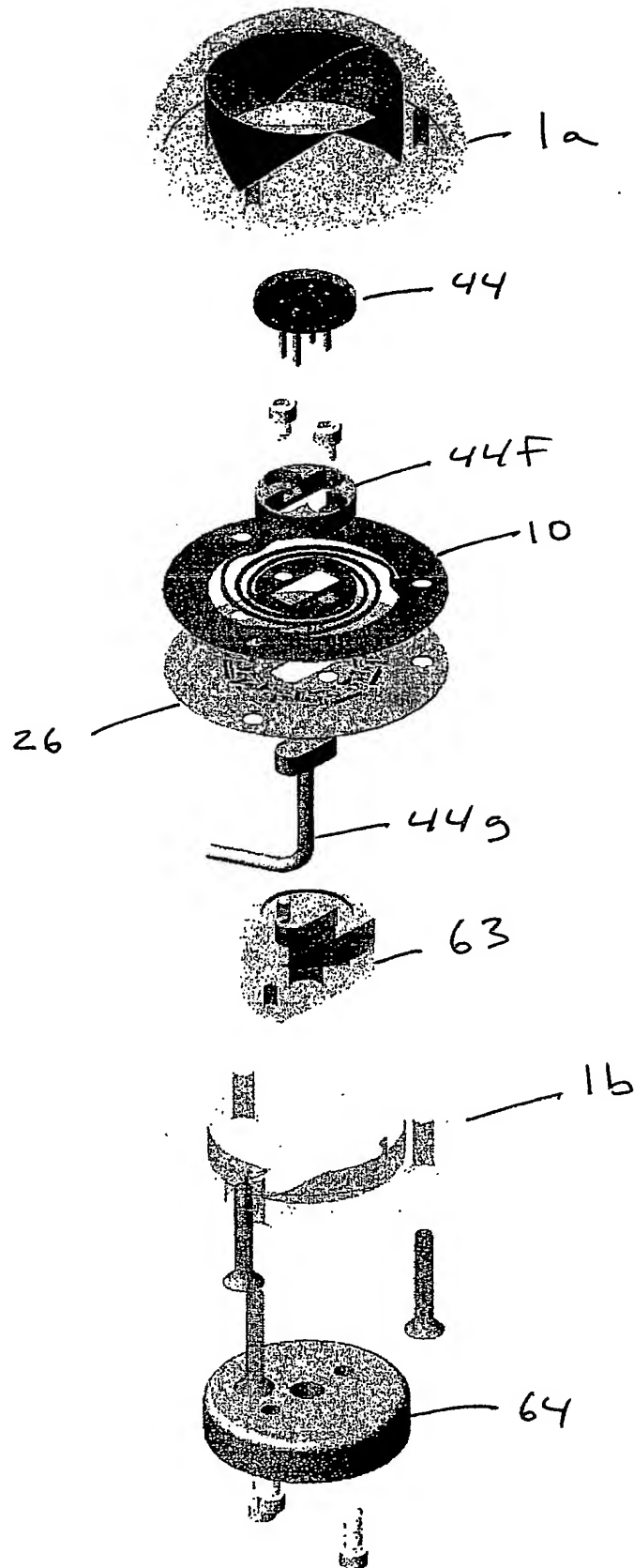
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Fig. 50a



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Fig. 50b



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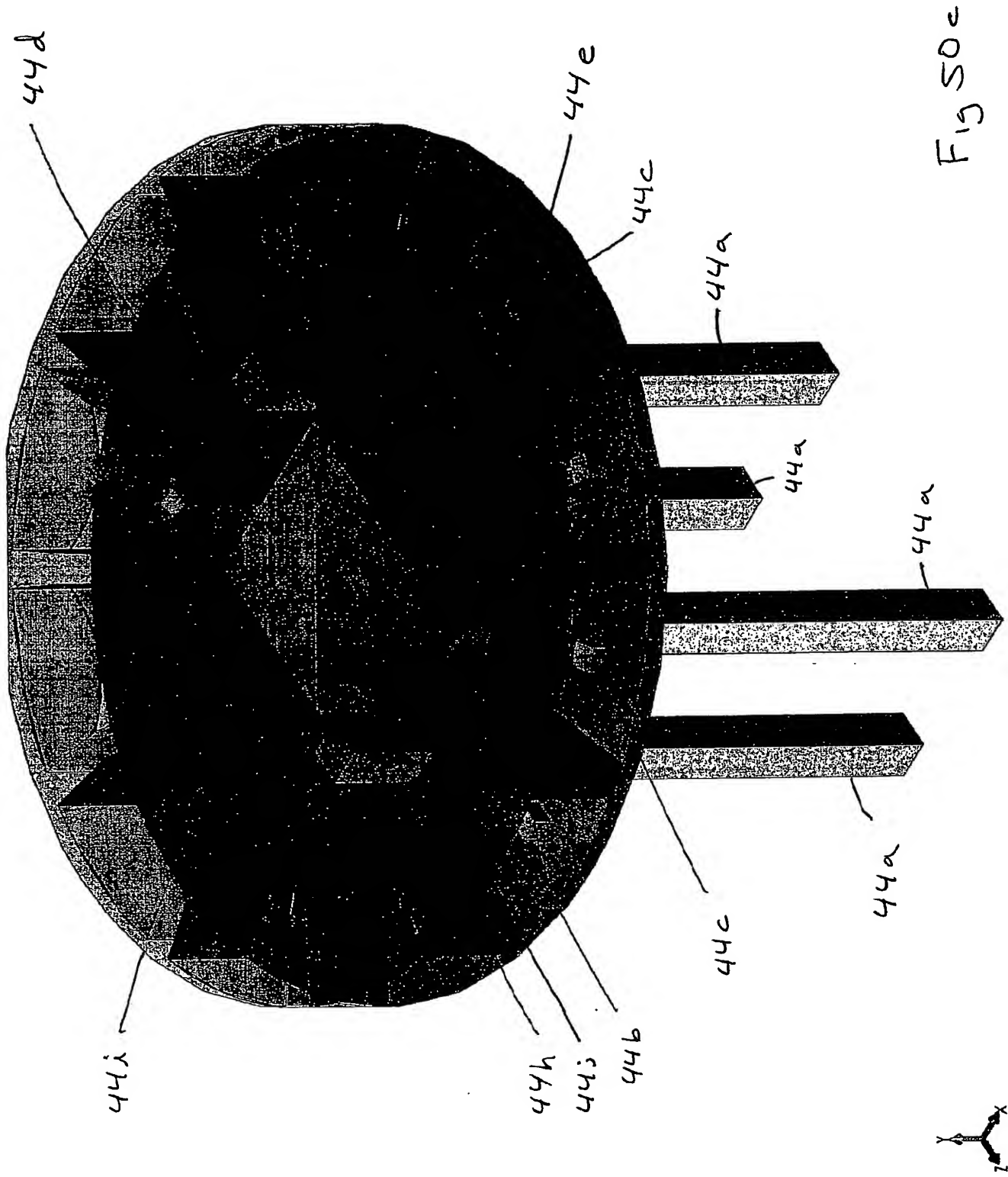


Fig 50c

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Fig 51a

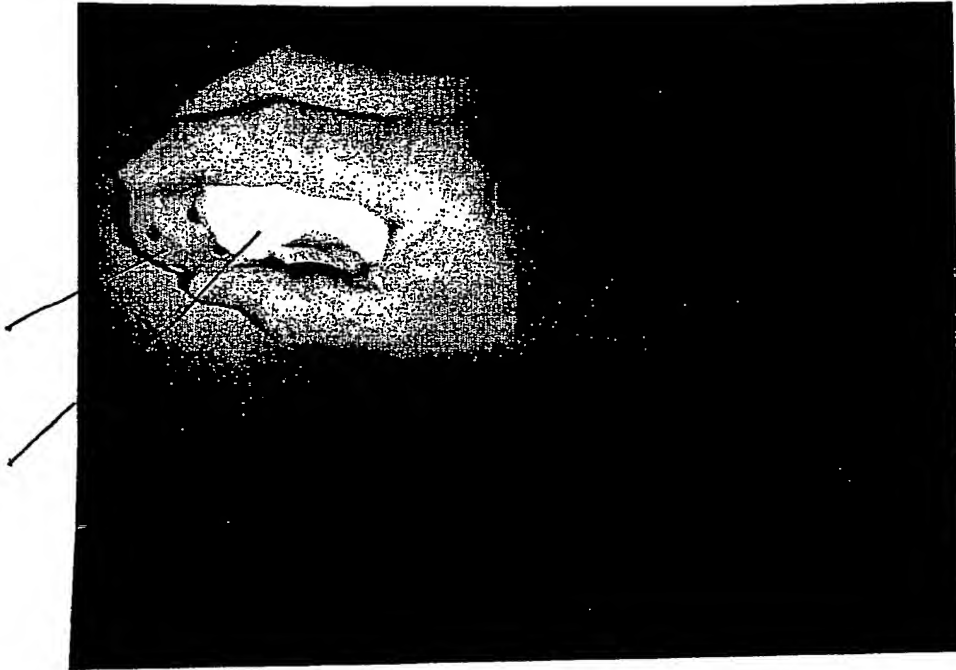
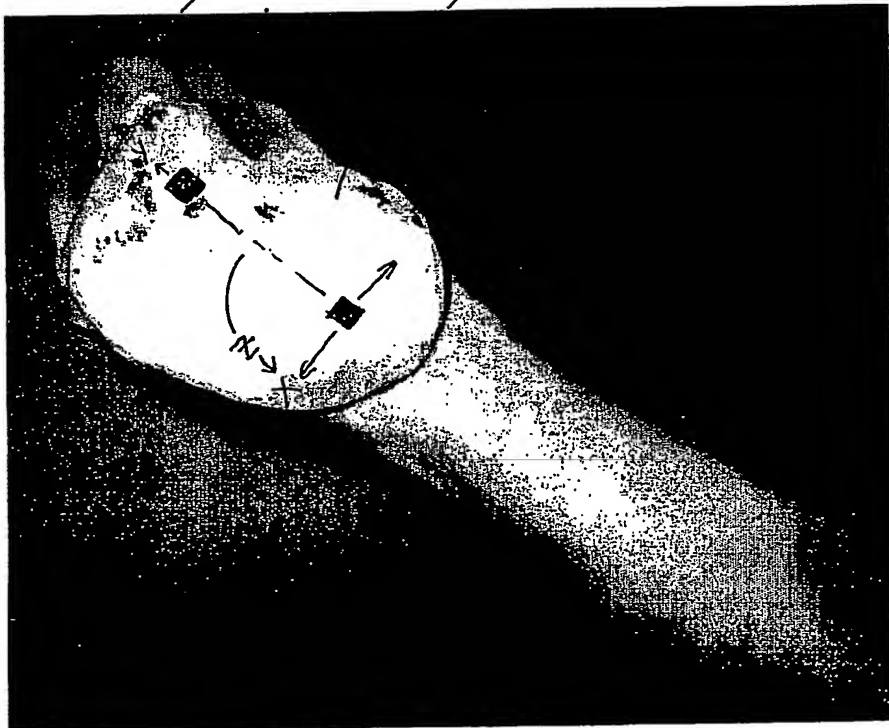


Fig 51b



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Fig. 51c

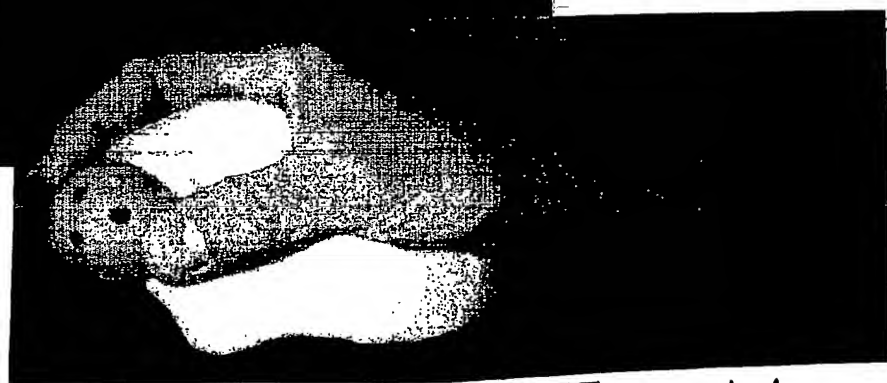


Fig 51d

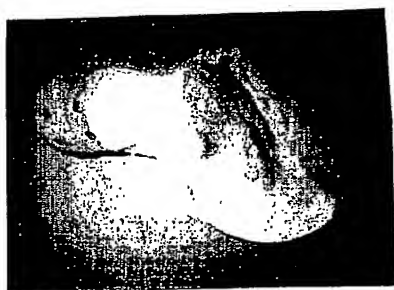


Fig 51e



Fig. 51f



Fig. 51g

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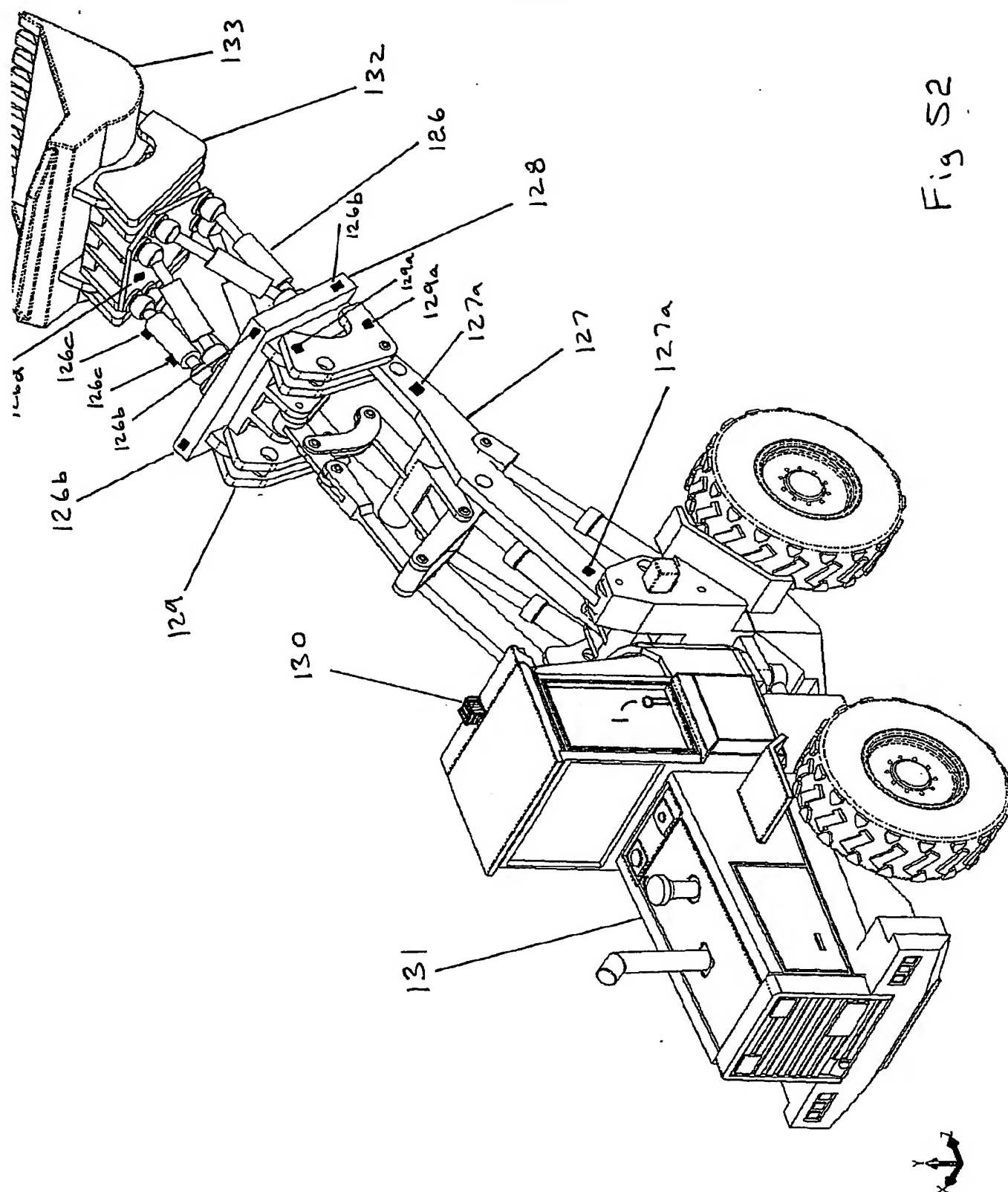
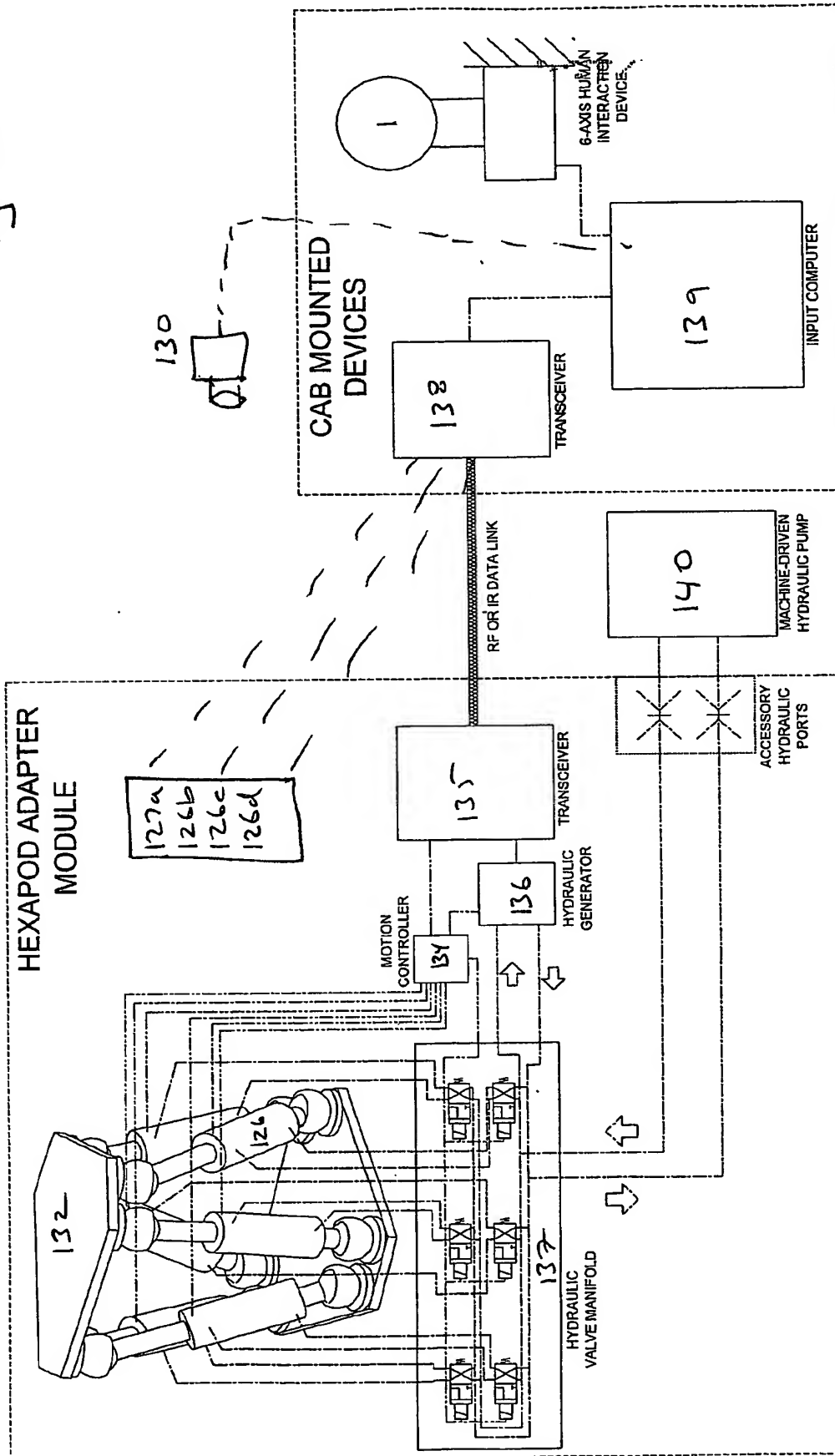


Fig 52

Fig S3



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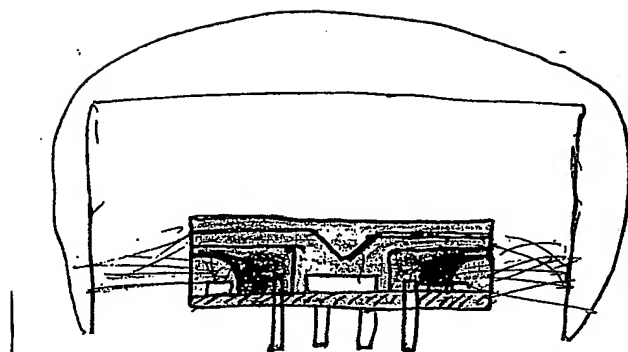


Fig 54a

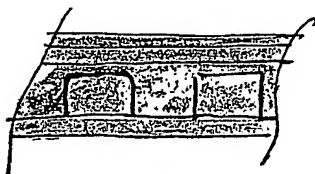
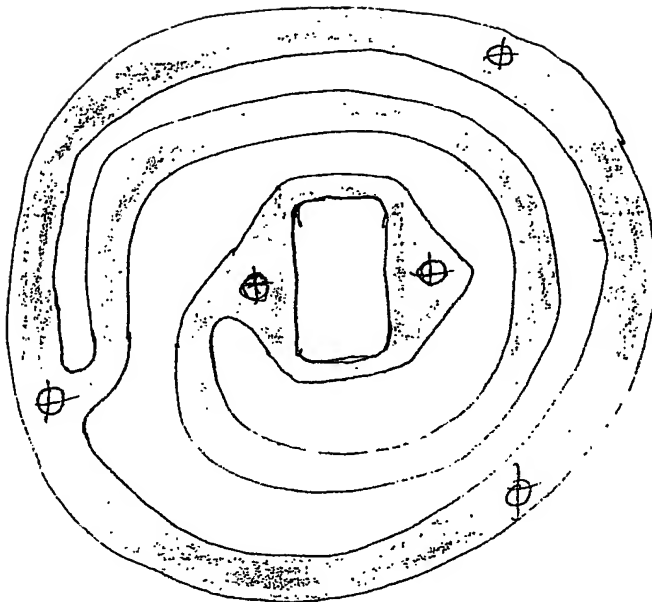


Fig 54b

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Fig 60



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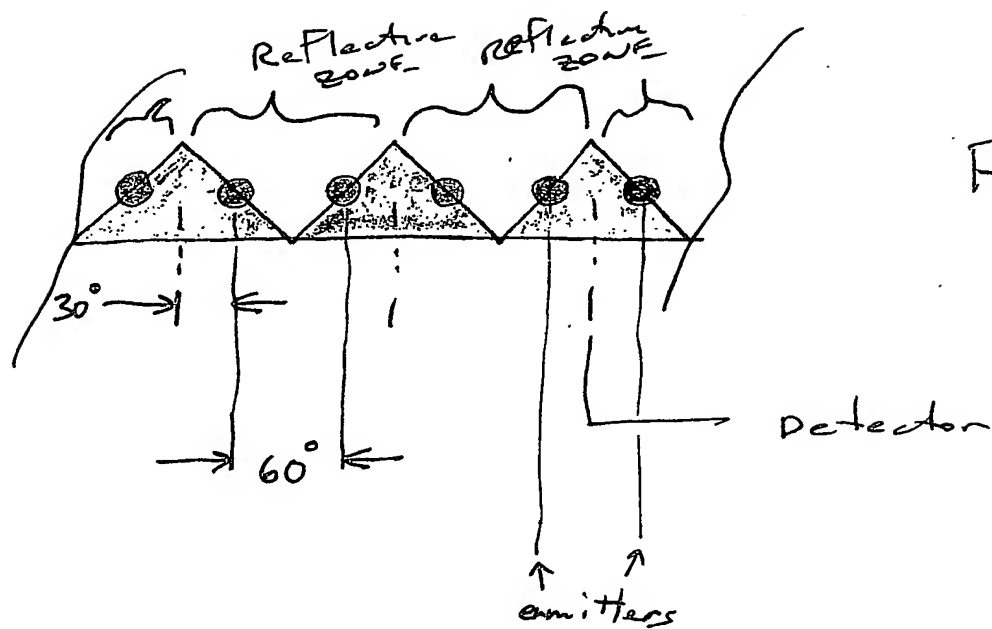


Fig 57

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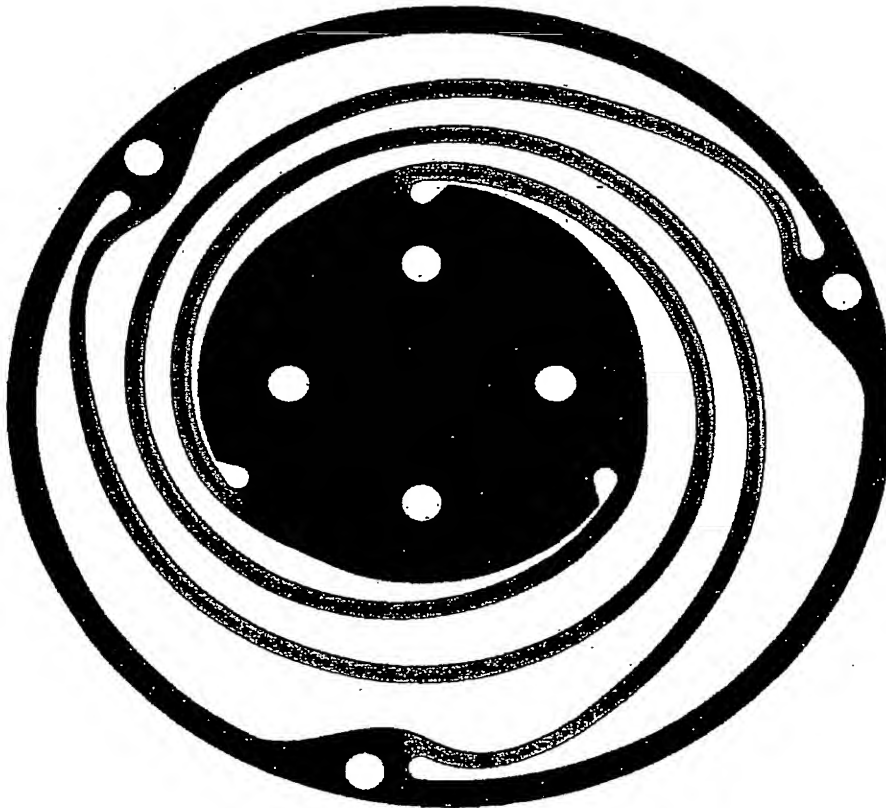
View Mises

1 LB
FORCE
RADIAL

- 0.010
WIDE
X
- 0.062 Thick
ELEMENTS

Fig 58

View Mises
1.82E+004
1.72E+004
1.62E+004
1.52E+004
1.42E+004
1.32E+004
1.22E+004
1.12E+004
1.02E+004
9.2E+003
8.2E+003
7.2E+003
6.2E+003
5.2E+003
4.2E+003
3.2E+003
2.2E+003
1.2E+003
0.2E+003



Spring-Loaded Force = Static Model Stress
Units: psi

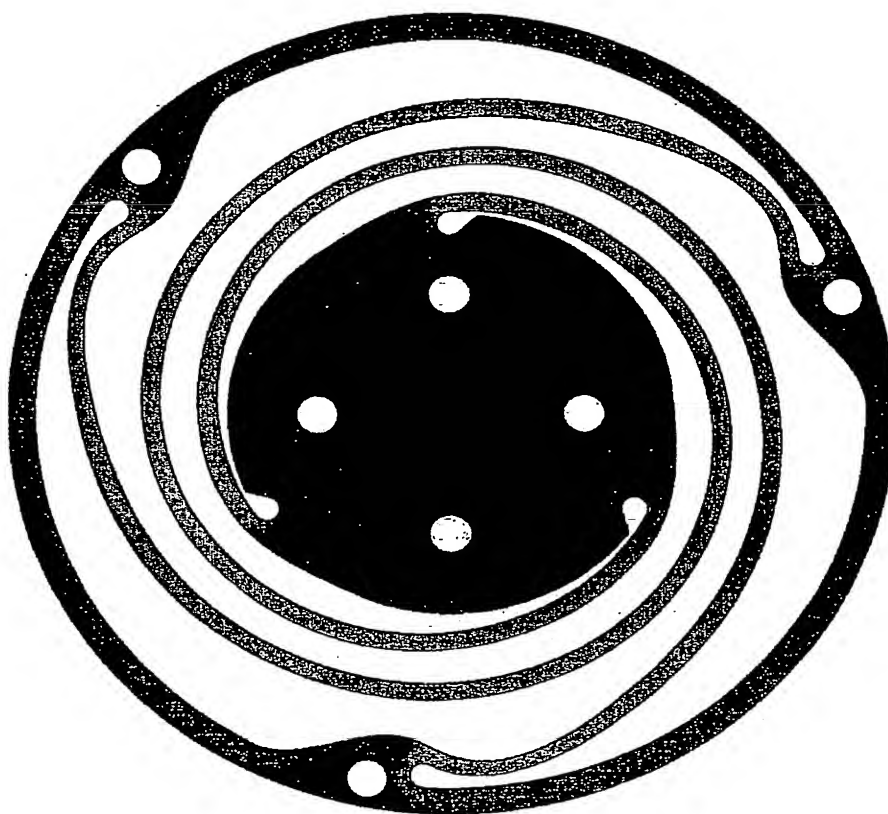
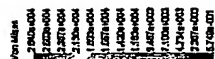
1/2

F1559

Von Mises

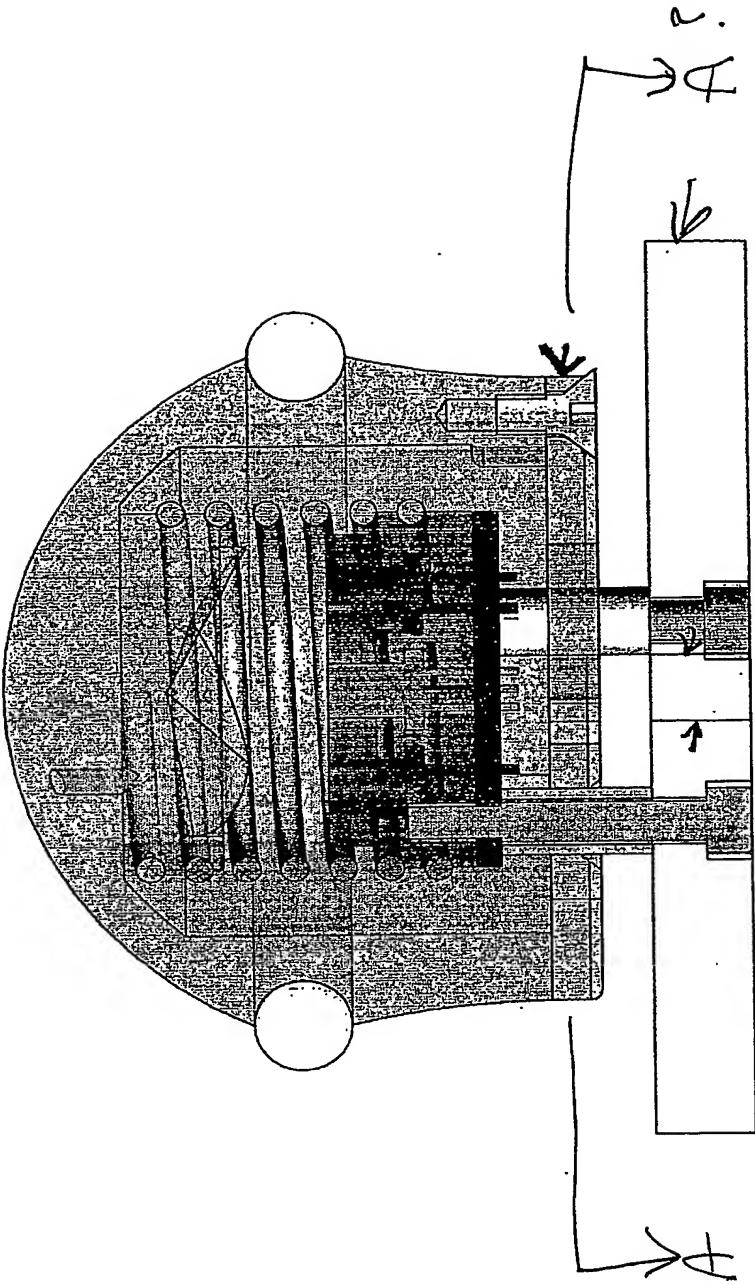
1 CB

7A1AL



SpringUpForce :: Static Modal Stress
Units : psi

2
3



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Fig 56a

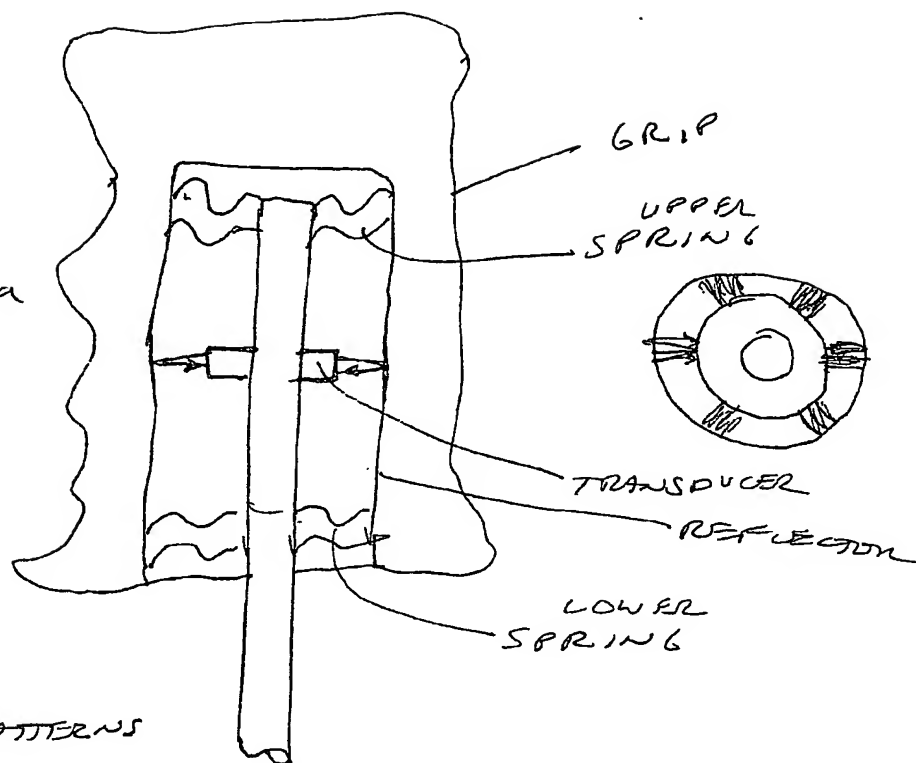


Fig. 56b

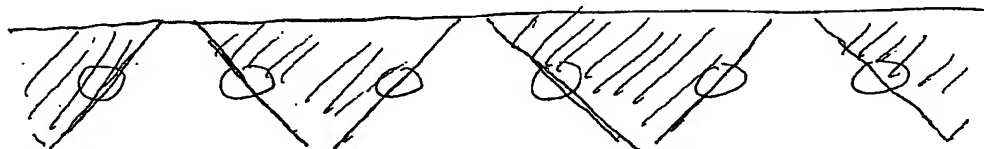
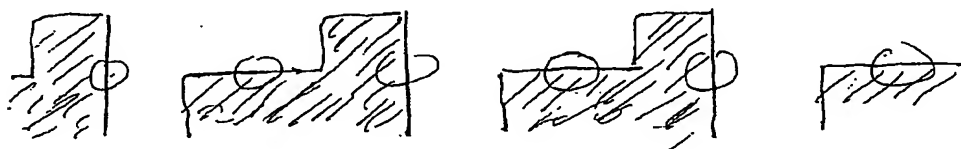
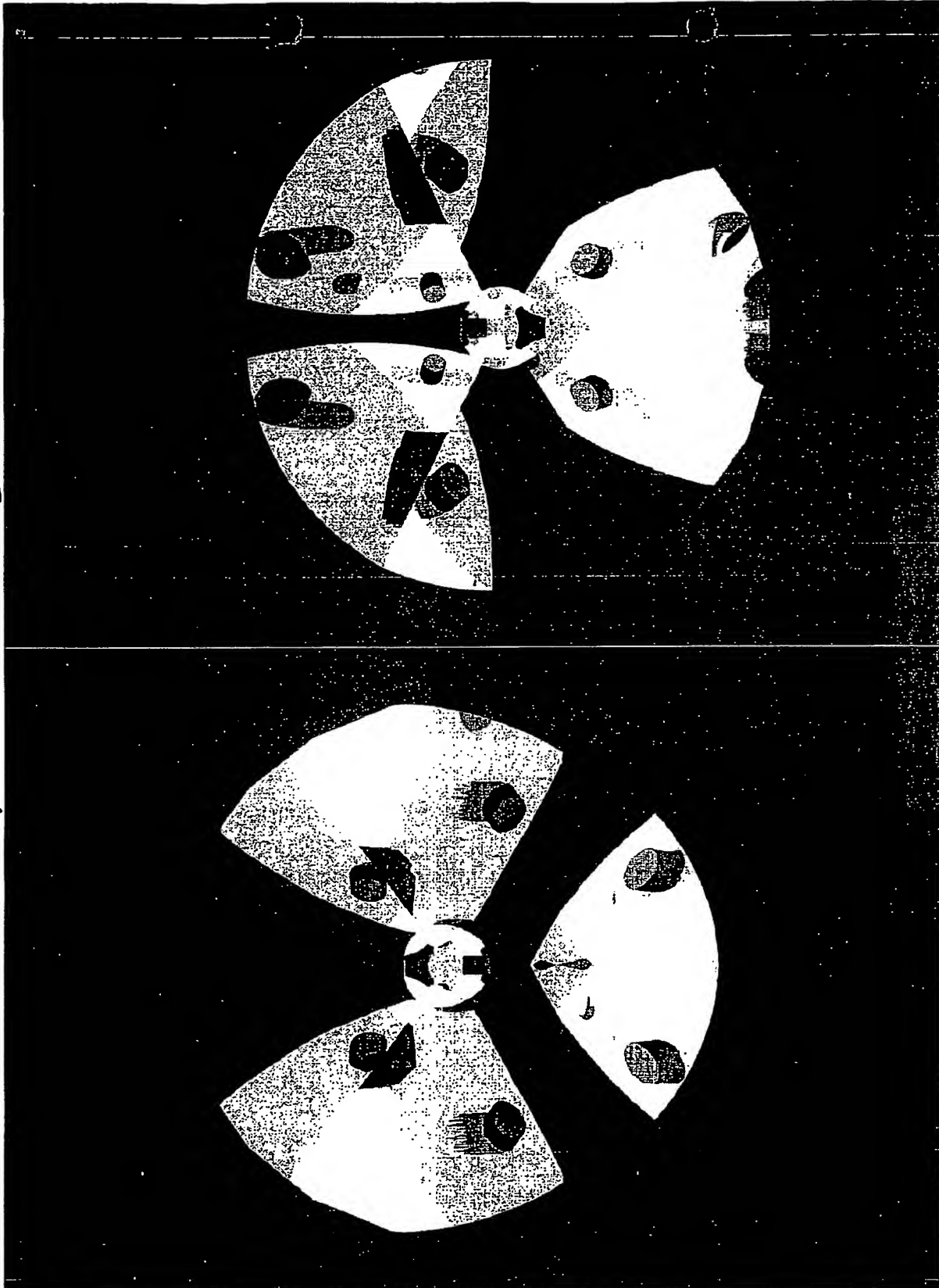


Fig 56c



↑
X
Fis
61b

Fis
61a
j
x
+



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